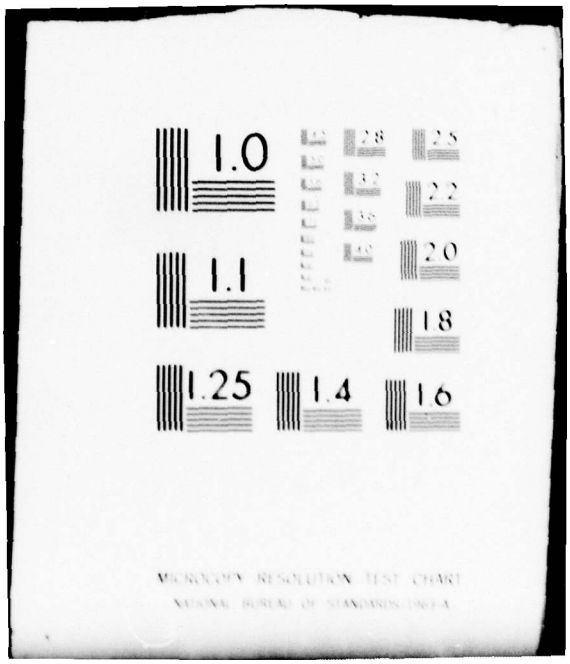
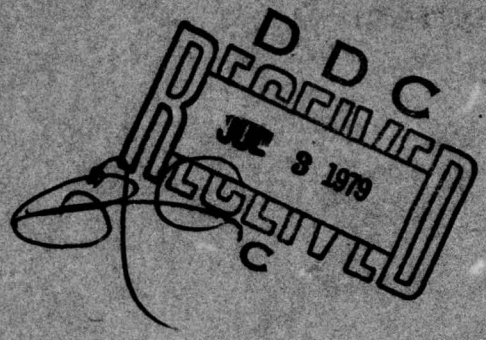
AD-A070 765 DEFENSE INTELLIGENCE AGENCY WASHINGTON DC F/G 20/5
BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS. NUMBER 31. SEPTEMBER--ETC(U)
OCT 78

UNCLASSIFIED DIA-DST-1740Z-005-78 NL

1 OF 2
AD A070765


1.0
1.1
1.25
1.4
1.6
2.0
1.8
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS 1963-A

DST-1740Z-005-78



BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS (U) SEPTEMBER-OCTOBER 1977

OCTOBER 1978

(14) DIA-DST-1740Z-005-78

(12)

(6) BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS

Number No. 31

SEPTEMBER - OCTOBER 1977

(11) Oct 78

Date of Report

October 4, 1978

(12) 101 p.

Vice Director for Production
Defense Intelligence Agency

This document was prepared for the Defense Intelligence Agency under an intragovernment agreement. It is intended to facilitate access of government researchers to Soviet laser literature.

Comments should be addressed to the Defense Intelligence Agency, Directorate for Scientific and Technical Intelligence, ATTN: DT-1A.

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS, No. 31 SEPTEMBER - OCTOBER 1977		5. TYPE OF REPORT & PERIOD COVERED 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s)		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS Defense Intelligence Agency Directorate for Scientific and Technical Intelligence, ATTN: DT-1A		12. REPORT DATE October 4, 1978 13. NUMBER OF PAGES 94
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office)		15. SECURITY CLASS. (of this report) UNCLASSIFIED 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited

17. Distribution Statement (of the abstract entered in Block 20, if different from report)

18. Supplementary Notes

19. KEY WORDS

Solid State Lasers, Liquid Lasers, Gas Lasers, Chemical Lasers, Laser Components, Nonlinear Optics, Spectroscopy of Laser Materials, Ultrashort Pulse Generation, Gamma Lasers, Laser Theory, Laser Biological Effects, Laser Communications, Laser Beam Propagation, Laser Computer Technology, Holography, Laser Chemical Effects, Laser Parameters, Laser Measurement Applications, Laser-Excited Optical Effects, Laser Beam-Target Interaction, Laser Plasma

20. ABSTRACT

This is the Soviet Laser Bibliography for September-October 1977 and is no. 31 in a continuing series on Soviet laser developments. The coverage includes basic research on solid state, liquid, gas, and chemical lasers; components; nonlinear optics; spectroscopy of laser materials; ultrashort pulse generation; theoretical aspects of advanced lasers; and general laser theory. Laser applications are listed under biological effects; communications; beam propagation; computer technology; holography; laser-induced chemical reactions; measurement of laser parameters; laser measurement applications; laser-excited optical effects; beam-target interaction; and plasma generation and diagnostics.

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

Introduction

This bibliography has been compiled under an interagency agreement as a continuing effort to document current Sobiet-bloc developments in the quantum electronics field. The period covered is September-October 1977, and includes all significant laser-related articles received by us in that interval. The bulk of the entries come from the approximately 30 periodicals which are known to publish the most significant findings in Soviet laser technology. Citations from the Russian Reference Journals are included, as well as entries from the CIRC data base not otherwise covered. Laser items from the popular or semipopular press are generally omitted.

For convenience we have abbreviated frequently cited source names; a source abbreviations list and an author index are included. All sources cited with no parenthetical notation are available at the Library of Congress. A parenthetical entry (RZh, KL), indicates the secondary source in which the citation was found as a bibliographic entry or abstract, but for which the original source is not currently available at the Library. The authors' affiliations are indicated by the numbers in parentheses following the authors' names in the text and are listed in the Author Affiliations List. New affiliations are assigned a new number and are added to a cumulative list which includes all affiliations from 1969 to the present. Only those affiliations which appear in this issue are listed in this issue's Author Affiliations List.

SOVIET LASER BIBLIOGRAPHY, SEPTEMBER - OCTOBER 1977

TABLE OF CONTENTS

I. BASIC RESEARCH

A. SOLID STATE LASERS

1. Crystal: Ruby

1. Anikeyev, B.V. (136). Dynamics and energy characteristics of a pulsed laser with an active phasing spectrum. UFZh, no. 10, 1977, 1707-1712.

2. Crystal: Rare-Earth Activated

a. Nd^{3+}

2. Kaczmarek, F., and M. Szymanski (NS). Performance of an NdLa pentaphosphate laser pumped by nanosecond pulses. IN: Sb 1, 441-444. (RZhRadiot, 10/77, 10Ye147)

3. Korniyenko, L.S., N.V. Kravtsov, and A.N. Shelayev (98). Axial mode locking in a solid state c-w YAG:Nd^{3+} ring laser. KE, no. 9, 1977, 1994-1996.

b. Er^{3+}

4. Kaminskiy, A.A., T.I. Butayeva, V.A. Fedorov, Kh.S. Bagdasarov, and A.G. Petrosyan (0). Absorption, Luminescence, and stimulated emission in $Lu_3Al_5O_{12}:Er^{3+}$ crystals. Physica status solidi (a), v. 39, no. 2, 1977, 541-548. (RZhF, 10/77, 10D1177)

5. Prokhorov, A.M., A.A. Kaminskiy, V.V. Osiko, M.I. Timoshechkin, Ye.V. Zharikov, T.I. Butayeva, S.E. Sarkisov, A.G. Petrosyan, and V.A. Fedorov (0). Study of stimulated emission near 3μ from Er^{3+} ions in aluminum garnets at room temperature. Physica status solidi (a), v.40, no.1, 1977, K69-K72. (RZhF, 10/77, 10D1178)

c. Gd^{3+}

6. Busarev, A.V., M.S. Orlov, and A.L. Stolov (0). Spectrum of the Gd^{3+} ion in a CaF_2-SrF_2-BaF_2 system. OiS, v.43, no.4, 1977, 691-693.

3. Crystal: Miscellaneous

7. Gusev, Yu.L., S.N. Konoplin, and S.I. Marennikov (10). Emission of coherent radiation from F_2 color centers in a LiF single crystal. KE, no. 9, 1977, 2024-2025.

8. Vakhmyanin , K.P., L.V. Karpova, V.I. Korolev, B.M. Sedov, L.N. Soms, and A.I. Stepanov (0). Thermal stresses occurring in a laminated laser active element from longitudinal inhomogeneity of pumping. ZhPS, v.27, no.3, 1977, 542-545.

9. Welling, H., G. Litfin, and R. Beigang (NS). Tunable c-w color-center lasers. IN: Sb.1, 220-221. (RZhRadiot, 10/77, 10Ye143)

4. Semiconductor: Simple Junction

a. GaAs

10. Bachert, H., A.P. Bogatov, and R.G. Yeliseyev (0). Limits of mode selection in semiconductor lasers. IN: Sb.1, 212-214. (RZhRadiot, 10/77, 10Ye158)

b. CdS

11. Dite, A.F., G.O. Mueller, and V.B. Timofeyev (0). Magnetooscillation of stimulated emission from an electron-hole liquid in a CdS crystal. IN: Sb.1, 254. (RZhRadiot, 10/77, 10Ye142)

5. Semiconductor: Mixed Junction

12. Vlasov, A.N., G.S. Kozina, T.A. Kostinskaya, L.N. Kurbatov, and A.I. Uvarov (0). Semiconductor e-beam pumped laser with continuous wavelength tuning. KE, no.9, 1977, 2038-2039.

6. Semiconductor: Heterojunction

13. Alferov, Zh.I., S.A. Gurevich, N.V. Klepikova, M.N. Mizerov, and Ye.L. Portnoy (4). A c-w lasing regime in an injection heterolaser with distributed Bragg mirrors. ZhTF P, no.19, 1977, 983-986.

14. Alferov, Zh.I., A.D. Vlasov, V.I. Kuchinskiy, M.N. Mizerov, Ye.L. Portnoy, and A.I. Uvarov (4). Heteroepitaxial waveguide lasers with second order distributed feedback under e-beam excitation. ZhTF P, no.19, 1977, 987-990.

15. Kolyshkin, V.I., and Ye.L. Portnoy (4). Relative threshold density of the current of band heterolasers in an AlAs-GaAs system during oxygen implantation. ZhTF P, no.18, 1977, 947-951.

7. Semiconductor: Theory

16. Gribkovskiy, V.P. (0). Saturation effects in semiconductors. ZhPS, v.27, no.4, 1977, 619-633.

17. Kopayev, Yu.V., and V.V. Tugushev (1). Polarization of radiation and ferromagnetic ordering in a semiconductor laser. ZhETF, v.73, no.4, 1977, 1414-1421.

8. Nd: Glass

18. Buzhinskiy, I.M., S.K. Mamonov, and V.F. Surkova (0). The role of titanium in stabilizing the lasing parameters of neodymium glass. ZhPS, v.27, no.4, 1977, 657-659.

B. LIQUID LASERS

1. Organic Dyes

a. Rhodamine

19. Aristov, A.V., D.A. Kozlovskiy, D.I. Stasel'ko, and V.L. Strugun (0). Spatial coherence of the radiation of a laser using an aqueous solution of rhodamine 6G in an unstable resonator under flashlamp pumping. OiS, v.43, no.4, 1977, 801-802.

20. Mueller, R., and E. Neef (NS). Generation of a pulse train in a dye laser with a saturable absorber. Annalen der Physik, no.1, 1977, 37-51. (RZhF, 9/77, 9D1226)

21. Vasilenko, L.S., V.P. Chebotayev, A.V. Shishayev, and B.Ya. Yurshin (0). Frequency stabiliaztion of a c-w dye laser over the Kr86 standard line. IN: Sb. 1, 474-478. (RZhRadiot, 10/77, 10Ye118)

b. Miscellaneous Dyes

22. Abakumov, G.A., S.A. Vorob'yev, and A.P. Simonov (92). Induced pump absorption, generation threshold, and the efficiency of organic compound lasers. KE, no.9, 1977, 1926-1932.

23. Abakumov, G.A., Yu.G. Basov, G.I. Kromskiy, A.P. Kuzyayev, V.I. Pchelkin, A.F. Sil'nitskiy, A.P. Simonov, V.V. Fadeyev, and Yu.A. Yanayt (2). The LOS-3 small-scale wideband laser using organic compound solutions. PTE, no.5, 1977, 231.

24. Bor, Zs., B. Racz, I. Ketskemety, and L. Kozma (NS). Investigation of the relaxation oscillation of N_2-laser-pumped dye lasers. IN: Sb.1, 490-491. (RZhRadiot, 10/77, 10Ye119)

25. Borisevich, N.A., G.B. Tolstorozhev, and D.M. Khalimanovich (0). Picosecond lasing in organic compound vapors. IN: Sb.1, 227. (RZhRadiot, 10/77, 10Ye91)

26. Dietel, W., and D. Kuehlke (NS). Self-synchronization of a c-w dye laser by various neon spectral lines. IN: Sb.1, 78-79. (RZhRadiot, 10/77, 10Ye184)

27. Koenig, R., S. Mory, M. Scholz, and D. Leupold (NS). Nitrogen-laser-pumped dye laser with narrow linewidth. IN: Sb.1, 195-204. (RZhRadiot, 10/77, 10Ye117)

28. Schaefer, F.P. (NS). Vapor-phase dye lasers. IN: Sb.1, 12. (RZhRadiot, 10/77, 10Ye113)

2. Inorganic Liquids

29. Ryba-Romanowski, W., W. Strek, and B. Jezowska-Trzebiatowska (NS). Some properties of a $POCl_3$-$ZrCl_4$:Nd^{3+} liquid laser. Acta physica polonica, v. A50, no. 5, 1976, 731-735. (RZhF, 9/77, 9D1219)

30. Ryba-Romanowski, W., Z. Mazurak, and B. Jezowska-Trzebiatowska (NS). Stimulated emission cross section for the $^4F_{3/2}$-$^4I_{13/2}$ transition of Nd^{3+} in $POCl_3$-$ZrCl_4$. IN: Sb 1, 241-243. (RZhRadiot, 10/77, 10Ye148)

3. Theory

31. Atroshchenko, V.I., B.V. Kalachev, V.S. Prokudin, and V.A. Tatarskiy (0). Liquid laser. Otkr izobr, no. 41, 1977, 555773.

C. GAS LASERS

1. Simple Mixtures

a. He-Ne

32. Alekseyev, V.A., and A.V. Malyugin (1). The influence of hyperfine structure on the frequency reproducibility of a He-Ne laser with a methane absorption cell. KE, no. 9, 1977, 1890-1902.

33. Andreyeva, Ye.Yu., D.K. Terekhin, and S.A. Fridrikhov (0). Some characteristics of polarization lock-in in a 3.39 μ laser. ZhPS, v. 27, no. 3, 1977, 540-541.

34. Bagayev, S.N., L.S. Vasilenko, V.G. Gol'dort, A.K. Dmitriyev, A.S. Dychkov, and V.P. Chebotayev (0). Use of narrow methane resonances of about 1 kHz width for stabilizing a He-Ne 3.39 μ laser frequency. IN: Sb 1, 479-481. (RZhRadiot, 10/77, 10Ye83)

35. Kaniewska, M., and T. Skalinski (NS). Collisional excitation transfer in a He-Ne gas laser. IN: Sb 1, 73-74. (RZhRadiot, 10/77, 10Ye72)

36. Leont'yev, V.G., and Ye.P. Ostapchenko (O). Effect of the excitation conditions on the radial distribution of population inversion in the active element of a He-Ne laser. OiS, v. 43, no. 3, 1977, 548-054.

37. Lis, L. (NS). Laser transitions at 3071, 5665, and 10353 nm in a He-Ne electric discharge. Acta physica polonica, v. A51, no. 4, 1977, 609-615. (RZhF, 10/77, 10D1206)

38. Makhorin, V.I., A.I. Popov, and Ye.D. Protsenko (O). Effect of intraresonator losses on the power of a He-Ne laser operating in the 3.39 μ region. ZhPS, v. 27, no. 3, 1977, 418-422.

39. Privalov, V.Ye. (163). Oscillations in a gas laser discharge (survey). KE, no. 10, 1977, 2085-2119.

b. $He-NF_3$

40. Lisitsyn, V.N., and A.M. Razhev (10). High-power high-pressure laser using red lines of fluorine. ZhTF P, no. 17, 1977, 862-864.

2. Molecular Beam and Ion

a. CO_2

41. Axinte, C., N. Comaniciu, I. Farcas, and I. Gutu (NS). CO_2 lasers in a continuous electric pumping regime. Studii si cercetari de fizica, no. 1, 1977, 37-58. (RZhF, 9/77, 9D1244)

42. Baranov, V.Yu., V.V. Breyev, D.D. Malyuta, and V.G. Niz'yev (O). Limiting the pulse repetition rate in periodic CO_2 lasers. KE, no. 9, 1977, 1861-1866.

43. Baranov, V.Yu., G.M. Klepach, D.D. Malyuta, V.S. Mezhevov, V.G. Niz'yev, and S.F. Chalkin (23). Pulsed CO_2 laser operating at a high pulse repetition rate. TVT, no.5, 1977, 972-976.

44. Basov, N.G., V.A. Boyko, V.A. Danilychev, V.D. Zvorykin, I.V. Kholin, and A.Yu. Chugunov (1). Transillumination of biological specimens by soft x-radiation in the plasma mirror of a CO_2 electroionization laser. DAN SSSR, v.236, no.2, 1977, 464-466.

45. Basov, N.G., V.A. Boyko, V.A. Danilychev, V.D. Zvorykin, T.G. Ivanova, A.N. Lobanov, A.F. Suchkov, I.V. Kholin, and A.Yu. Chugunov (1). CO_2 electroionization laser with a plasma mirror. Fizicheskiy institut AN SSSR. Kvantovaya radiofizika. Preprint, no.14, 1977, 53 p. (RZhF, 9/77, 9D1242)

46. Basov, N.G., V.A. Danilychev, A.A. Ionin, V.S. Kazakevich, A.D. Klementov, I.B. Kovsh, N.L. Poletayev, V.A. Sobolev, and L.Ye. Kholodenko (1). Electroionization laser using a CO_2-N_2-H_2 mixture. KE, no.10, 1977, 2216-2224.

47. Basov, N.G., V.A. Boyko, V.A. Danilychev, V.D. Zvorykin, I.V. Kholin, and A.Yu. Chugunov (1). Reflection of radiation from a plasma mirror of an electroionization CO_2 laser. KE, no.10, 1977, 2268-2271.

48. Bazarov, Ye.N., G.A. Gerasimov, V.P. Gubin, and Yu.I. Posudin (0). Frequency stabilization of a CO_2 laser by narrow resonances in OsO_4. IVUZ Radioelektr., no.10, 1977, 39-44.

49. Belyanko, A.Ye., Yu.B. Konev, I.K. Krasyuk, N.I. Lipatov, B.N. Lyubomirov, and P.P. Pashinin (1). Pumping a CO_2 laser by means of an electron-vibrational process of excitation transfer. KSpF, no.3, 1977, 41-45. (RZhF, 10/77, 10D1227)

50. Berdyshev, A.V., V.Kh. Roykhman, and V.M. Gol'dfarb (0). Pulsed CO_2 electric discharge laser with a Bluemlein supply circuit. IN: Sb. 2, 23-25. (RZhRadiot, 10/77, 10Ye20)

51. Berezhnoy, I.A., V.A. Boyko, V.A. Danilychev, V.D. Zvorykin, V.V. Ignat'yev, I.V. Kholin, and A.Yu. Chugunov (1). Single-stage CO_2 laser for obtaining radiation pulses with a power in the tens of gigawatts. PTE, no.5, 1977, 172-174.

52. Dumitras, D.C. (NS). Amplification in a CO_2 laser. Studii si cercetari de fizica, no.2, 1977, 133-157. (RZhF, 9/77, 9D1241)

53. Gavrilyuk, V.D., A.F. Glova, V.S. Golubev, and F.V. Lebedev (0). Study of the efficiency of a fast-flow CO_2 laser pumped by an A-C discharge. KE, no.9, 1977, 2034-2036.

54. Gordiyenko, V.M., V.A. Gorshkov, V.Ya. Panchenko, and A.P. Sukhorukov (2). Kinetic cooling of a CO_2-N_2 gas mixture by CO_2 laser radiation. ZhETF, v.73, no.3, 1977, 874-883.

55. Karnyushin, V.N., and R.I. Soloukhin (180). Effect of initial conditions on the development of a homogeneous discharge in gases. DAN SSSR, v.236, no.2, 1977, 347-350.

56. Karnyushin, V.N., A.N. Malov, and R.I. Soloukhin (180). Effect of readily-ionized impurities in the near-cathode layer on the development of a discharge in gases. Fizika plazmy, no.5, 1977, 1017-1021.

57. Muradyan, A.G. (0). Tunable infrared lasers. IN: Sb.1, 13-14. (RZhRadiot, 10/77, 10Ye171)

58. Pospisilova, M., K. Hamal, and M. Vrbova (NS). TEA CO_2 laser with high pumping efficiency. IN: Sb.1, 496-497. (RZhRadiot, 10/77, 10Ye30)

59. Thiede, B. (NS). Attachment for producing pulses of operating voltage in gas lasers. IN: Sb. 1, 304-305. (RZhRadiot, 10/77, 10Ye27)

b. CO

60. Basov, N.G., V.A. Danilychev, A.A. Ionin, I.B. Kovsh, V.S. Kazakevich, and N.L. Poletayev (0). CO electroionization laser with a cooled active medium. IN: Sb.1, 464. (RZhRadiot, 10/77, 10Ye38)

61. Lotkova, E.N., L.Ya. Ostrovskaya, and N.N. Sobolev (1). Experimental determination of the saturation parameters of an electrical discharge c-w CO laser. KE, no.9, 1977, 1944-1948.

62. Napartovich, A.P., I.V. Novobrantsev, and A.N. Starostin (98). Analytic theory of a steady-state CO laser. KE, no.10, 1977, 2125-2134.

c. Noble Gas

63. Bergou, J., L. Csillag, M. Janossy, and K. Rozsa (NS). Investigation of discharge and output parameters of a hollow cathode He-Kr laser. IN: Sb.1, 57-58. (RZhRadiot, 10/77, 10Ye86)

64. Haensch, H-G., and T. Pradel (NS). Improving the time coherence of the ILA-120 argon ion laser. IN: Sb.1, 55-56. (RZhRadiot, 10/77, 10Ye88)

65. Kochubey, S.A., V.N. Lisitsyn, A.P. Sorokin, and P.L. Chapovskiy (31). Tunable high pressure gas lasers using atomic transitions. KE, no.9, 1977, 2004-2007.

d. H_2

66. Basov, N.G., N.Ye. Vtorova, A.N. Lobanov, A.N. Orayevskiy, and A.F. Suchkov (1). Theoretical analysis of a laser using vibrational-rotational transitions of molecular hydrogen and its isotope substitutions. Fizicheskiy institut AN SSSR. Kvantovaya radiofizika. Preprint, no. 47, 1977, 35 p. (RZhF, 10/77, 10D1205)

e. I_2

67. Andreyeva, T.L., G.N. Birich, I.I. Sobel'man, V.N. Sorokin, and I.I. Struk (1). C-w pumped flow-through iodine laser. KE, no.10, 1977, 2150-2156.

68. Basov, N.G., V.S. Zuyev, V.A. Katulin, K.S. Korol'kov, V.N. Netemin, V.Yu. Nosach, O.Yu. Nosach, Ye.P. Orlov, and A.L. Petrov (0). Generation of short pulses and angular spectrum of radiation in an iodine laser. IN: Sb.1, 52-54. (RZhRadiot, 10/77, 10Ye63)

f. Metal Vapor

69. Csillag, L., Nam Czo Zong, M. Janossy, and K. Rozsa (NS). Output characteristics of a hollow cathode He-Cd laser. IN: Sb.1, 71-72. (RZhRadiot, 10/77, 10Ye85)

70. Fedorov, A.I., V.P. Sergeyenko, and V.F. Tarasenko (78). Device for studying lasing by refractory metal vapors. KE, no.9, 1977, 2036-2038.

71. Kirilov, A.Ye., V.N. Kukharev, A.N. Soldatov, and V.F. Tarasenko (396). Lead vapor laser. IVUZ Fiz, no.10, 1977, 146-149.

72. Zemskov, K.I., A.A. Isayev, M.A. Kazaryan, S.V. Markova, and G.G. Petrash (0). Optical systems with brightness amplifiers. IN: Sb.1, 362. (RZh Radiot, 10/77, 10Ye69)

g. Gasdynamic

73. Biryukov, A.S., Yu.A. Kulagin, and L.A. Shelepin (1). Kinetics of the physical processes in a chemical CO laser using a flow mixture of partially dissociated O_2 and CS_2. Fizicheskiy institut AN SSSR. Opticheskaya laboratoriya. Preprint, no.40, 1977, 32 p. (RZhF, 9/77, 9D1248)

74. Breyev, V.V., S.N. Minin, U.G. Pirumov, and V.R. Shevchenko (0). Flow of a gas mixture with relaxation of vibrational energy in plane and axial-symmetric jet nozzles. MZhiG, no.5, 1977, 125-131.

75. Brunne, M., A. Zielinski, and J. Milewski (NS). Introductory results of a numerical analysis of a c-w N_2O/N_2 gasdynamic laser with common expansion. IN: Sb.1, 75-77. (RZhRadiot, 10/77, 10Ye101)

76. Milewski, J., M. Brunne, M. Irczuk, J. Stanco, A. Zielinski, G. Rabczuk, A.I. Demin, Ye.M. Kudryavtsev, A.Yu. Volkov, and N.N. Sobolev (0). Preliminary experiments with a thermally excited c-w N_2O mixing gasdynamic laser. IN: Sb.1, 67-68. (RZhRadiot, 10/77, 10Ye99)

h. Miscellaneous Molecular

77. Borisevich, N.A., A.Ya. Blokhin, I.I. Kalosha, V.A. Tolkachev, and V.A. Tugbayev (0). Effect of extraneous gases on the characteristics of a laser using complex molecular vapors. IN: Sb.1, 230-231. (RZhRadiot, 10/77, 10Ye47)

78. Valentini, H.B. (E. German). Gas-discharge tube for an ion laser. Otkr izobr, no.44, 1977, 582547.

3. Excimer

79. Basov, N.G., Yu.A. Babeyko, V.S. Zuyev, L.D. Mikheyev, and I.V. Pogorel'skiy (0). XeO-exciplex photochemical laser. IN: Sb.1, 46-47. (RZhRadiot, 10/77, 10Ye48)

80. Isakov, I.M., A.G. Leonov, and V.Ye. Ogluztsin (2). Excitation of an XeF laser by means of a longitudinal electric discharge. ZhTF P, no.18, 1977, 965-968.

4. Theory

81. Burnashev, M.N. (0). Polarization of the active medium of a multimode gas laser during modulation of excitation. OiS, v.43, no.4, 1977, 797-799.

82. Kaliteyevskiy, N.I., Ye.N. Kotlikov, and M.P. Chayka (12). Determining the atomic constants and collision cross sections by level crossing in gas lasers. KE, no.9, 1977, 1949-1958.

83. Vdovin, Yu.A., V.M. Yermachenko, I.P. Konovalov, and Ye.D. Protsenko (16). Measurement of the relaxation constant of a common level during resonance interaction of opposed waves and a three-level system. KE, no.9, 1977, 1867-1872.

84. Wiedernold, G., M. Schubert, W. Triebel, K.H. Donerhacke, and G. Wanie (NS). Device for exciting molecular gas lasers. Patent GDR, no. 118480, issued 5 March 1976. (RZhRadiot, 10/77, 10Ye46)

D. Chemical Lasers

1. F_2+H_2 (D_2)

85. Bashkin, A.S., V.I. Igoshin, A.N. Orayevskiy, and N.N. Yuryshev (0). Study of a master oscillator system using a hydrogen fluoride chain reaction. IN: Sb.1, 215-216. (RZhRadiot, 10/77, 10Ye56)

86. Virnik, Ya.Z., V.G. Krutova, A.I. Mashchenko, A.N. Orayevskiy, A.A. Stepanov, and V.A. Shcheglov (1). Theoretical study of a c-w chemical HF laser with a telescopic resonator. KE, no.10, 1977, 2234-2245.

2. Photodissociative

87. Baboshin, V.N., S.L. Dobychin, V.S. Zuyev, L.D. Mikheyev, A.B. Pavlov, A.V. Startsev, and V.P. Fokanov (1). Laser using an electron transition in CN radicals with optical pumping by an open heavy-current discharge. KE, no.9, 1977, 2057-2058.

88. Dudkin, V.A., V.G. Nekrashevich, and V.B. Rukhin (0). Characteristics of a methyl iodide photodissociation laser. ZhPMTF, no.2, 1977, 9-14.

89. Zalesskiy, V.Yu., A.M. Kokushkin, and I.L. Yachnev (0). Pyrolysis mechanism of perfluoralkyliodide vapor under the action of ultraviolet radiation. ZhTF, no.10, 1977, 2193-2197.

3. Miscellaneous

90. Orayevskiy, A.N. (0). Chemical lasers: current status and prospects for development. IN: Sb.1, 27-28. (RZhRadiot, 10/77, 10Ye106)

E. COMPONENTS

1. Resonators

91. Ishchenko, Ye.F., and G.S. Ramazanova (0). Sensitivity of eigenmodes of vibrations to the transverse inhomogeneity of an optical resonator. ZhPS, v.27, no.3, 1977, 534-538.

92. Koval'chuk, L.V., and V.Ye. Sherstobitov (0). The effect of small-scale phased inhomogeneities on the properties of unstable resonators. KE, no. 10, 1977, 2166-2172.

93. Marchenko, V.N., T.M. Makhviladze, A.M. Prokhorov, and M.Ye. Sarychev (1). Open optical resonators with periodic cutoffs. Fizicheskiy institut AN SSSR. Kvantovaya radiofizika. Preprint, no.20, 1977, 38 p. (RZhF, 9/77, 9D1302)

94. Morgun, Yu.F., M.A. Muravitskiy, and S.A. Ryzhechkin (0). Spectral dynamics of luminescence and its effect on the lasing spectrum of a laser. ZhPS, v. 27, no.4, 1977, 697-703.

95. Sapelkin, N.V., and V.V. Spiridonov (7). Laser resonator with low reflection of the output mirror and reduced radiation load on the element. OMP, no.10, 1977, 52-54.

2. Pump Sources

96. Kolwas, K., and J. Mostowski (NS). Dressed atom model for optical pumping with modulated light. IN: Sb.1, 285-286. (RZhRadiot, 10/77, 10Ye5)

97. Tamanis, M.Ya., R.S. Ferber, and O.A. Shmit (0). Study of optical pumping of the ground state of diatomic molecules according to the polarization of laser-excited fluorescence. IN: Sb.3, 116-137. (RZhF, 10/77, 10D363)

3. Deflectors

98. Bryzhina, M.F., and S.Kh. Yesayan (4). Anisotropic acoustooptic deflector using uniaxial crystals with optical activity. ZhTF, no.9, 1977, 1937-1943.

99. Nikulin, M.G., A.A. Dyachenko, M.I. Yelinson, and O.Ye. Shushpanov (0). Electrooptically controlled interference light deflector. RiE, no. 10, 1977, 2173-2179.

100. Suynov, S.Kh., and V.Kh. Suynov (Bulgarian). Deflector based on disturbed total internal reflection of light. KE, no.9, 1977, 2010-2011.

101. Synak, R. (NS). Compensation of thermal effects in water-filled acoustooptic deflectors. IN: Sb.1, 252-253. (RZhRadiot, 10/77, 10Ye205)

4. Polarizers

102. Sokolova, R.S., V.A. Serebryakov, N.A. Razumovskaya, and V.Ye. Yashin (7). Stable interference polarizers for lasers. OMP, no.9, 1977, 56-57.

5. Filters

103. Baranova, L.I., V.N. Luk'yanov, A.T. Semenov, N.V. Shelkov, and S.D. Yakubovich (141). Study of a thin film grating filter under oblique radiation incidence. KE, no.9, 2025-2029.

104. Belinskiy, B.A., E.N. Kaplan, and V.K. Shatalov (0). Device for linear spatial filtration of two-dimensional optical signals. Author's certificate USSR, no. 519672, issued 2 November 1976. (RZhRadiot, 9/77, 9Ye143)

105. Vizen, F.L. (0). Acoustooptic filter. Author's certificate USSR, no. 530303, 17 November 1976. (RZhRadiot, 9/77, 9Ye211)

6. Mirrors

106. Kuznetsov, A.Ya. (7). Problems in the field of optical coatings. OMP, no.10, 1977, 43-47.

7. Detectors

107. Voronov, V.V., N.V. Karlov, G.P. Kuz'min, Yu.S. Kuz'minov, B.A. Kupritsyn, S.M. Nikiforov, V.V. Osiko, and A.M. Prokhorov (1). Quick-response pyroelectric detector using $Ba_{0.25}Sr_{0.75}Nb_2O_6$ crystals. KE, no.9, 1977, 1903-1910.

108. Zelikman, M.Kh., V.A. Fabrikov, and N.V. Shalomeyeva (0). Recording infrared radiation by means of a selenium converter. IN: Sb.4, 46-48. (RZhF, 10/77, 10D1538)

8. Modulators

109. Alferov, Zh.I., Ye.N. Arutyunov, V.A. Mishurnyy, Ye.L. Portnoy, and V.Z. Pyatayev (4). Band electrooptic modulator using a binary GaP-$Al_xGa_{1-x}P$ heterostructure. ZhTF P, no.17, 1977, 890-893.

110. Andreyev, R.B., V.D. Volosov, and V.N. Krylov (0). Temperature stabilization of ADP and KDP crystals in the process of cascade generation of UV radiation. ZhTF, no.9, 1977, 1977-1978.

111. Berezhnoy, A.A., V.Z. Gurevich, and E.I. Krupitskiy (0). Spatial modulation of coherent light based on various types of electrooptic crystals. IN: Sb.5, 3-7. (RZhRadiot, 9/77, 9Ye92)

112. Berezhnoy, A.A., Yu.V. Popov, T.N. Sherstneva, and V.M. Solntsev (0). Effect of the twinning of zinc selenide crystals on their electrooptic properties. OiS, v.43, no.3, 1977, 486-490.

113. Dadeshidze, V.V., D.F. Dzhmukhadze, Ye.V. Martynova, and N.A. Tsnobiladze (0). Attenuator with an electronically controlled optical ceramic phase plate. IN: Sb.5, 191-199. (RZhRadiot, 9/77, 9Ye209)

114. Dadeshidze, V.V., D.F. Dzhmukhadze, Ye.V. Martynova, and N.A. Tsnobiladze (0). High-precision polarizing optical attenuator. IN: Sb.5, 200-209. (RZhRadiot, 9/77, 9Ye210)

115. Grebenyuk, A.F., M.M. Bykov, and M.M. Kalugin (35). Electrooptic SHF light modulator. Author's certificate USSR, no. 531117, issued 22 December 1976. (RZhRadiot, 10/77, 10Ye198)

116. Helsztynski, J. (NS). Extinction ratio in an electrooptic light modulator with a half-wave retardation plate. IN: Sb.1, 504-506. (RZhRadiot, 10/77, 10Ye199)

117. Hultzsch, R. (NS). Passive Q-switching of a ruby laser with color centers in SrF_2. IN: Sb.1, 433-434. (RZhRadiot, 10/77, 10Ye132)

118. Kormakov, A.A., G.P. Osokin, and A.A. Chernoyarskiy (0). Diffraction distortions of spatial distribution of radiation by a shutter. IN: Sb.6, 45-51. (RZhF, 10/77, 10D1558)

119. Nowicki, M., Z. Niechoda, and W. Wolinski (NS). Acoustooptic Q-switches for YAG:Nd lasers. IN: Sb.1, 255-256. (RZhRadiot, 10/77, 10Ye135)

120. Varnavskiy, O.P., A.M. Leontovich, and A.M. Mozharovskiy (0). Mode-locking in a laser with reduced relaxation time of a saturable filter caused by stimulated emission in it. IN: Sb.1, 461. (RZhRadiot, 10/77, 10Ye183)

121. Vas'kin, V.V., A.N. Kudryavtsev, and I.V. Nikolayev (0). Electrooptic phase modulator. Author's certificate USSR, no. 524155, issued 30 September 1976. (RZhRadiot, 10/77, 10Ye197)

122. Vdovenkov, V.A., N.N. Yevtikhiyev, V.V. Osipov, V.N. Simakov, and K.P. Tsvetayev (161). Electrooptic polarization switch. Author's certificate USSR, no. 534726, issued 4 March 1977. (RZhRadiot, 9/77, 9Ye95)

123. Vilitis, O.Ye., A.N. Vindzhanov, and U.V. Yanson (0). Means for electronic control of pulsed light sources. IN: Sb.3, 150-154. (RZhF, 10/77, 10D1541)

F. NONLINEAR OPTICS

1. Frequency Conversion

124. Akhmanov, S.A., B.V. Zhdanov, A.I. Kovrigin, V.I. Kuznetsov, S.M. Pershin, and A.I. Kholodnykh (2). Pulsed periodic parametric light oscillator tunable in the 0.63-3.4μ range for nonlinear spectroscopy. KE, no.10, 1977, 2225-2233.

125. Antipov, A.I., G.A. Abakumov, A.P. Simonov, A.B. Sinitsyn, and V.V. Fadeyev (0). Obtaining frequency-tunable picosecond pulses during artificial shortening of the relaxation time of a saturated absorber. IN: Sb.1, 235. (RZhRadiot, 10/77, 10Ye128)

126. Fischer, R., Chu Tran-ba, and L.W. Wieczorek (NS). Optimum focusing in singly resonant optical parametric oscillators. IN: Sb.1, 222-224. (RZh Radiot, 10/77, 10Ye191)

127. Gerasimov, G.A., and Yu.I. Posudin (0). Frequency tuning in gas lasers by means of surface acoustic waves. IVUZ Radioelektr., no.10, 1977, 78-80.

128. Grin', Yu.G., Yu.N. Karamzin, and A.P. Sukhorukov (71). Axial loss of synchronism during second harmonic generation by c-w laser radiation. KE, no.10, 1977, 2276-2279.

129. Kamenskiy, N.N., I.N. Matveyev, and Yu.V. Prichko (0). Apparatus for frequency shifting in the optical band. KE, no.10, 1977, 2252-2254.

130. Nestrizhenko, Yu.A. (84). Two-frequency laser. Author's certificate USSR, no.486615, issued 4 January 1977. (RZhRadiot, 9/77, 9Ye58)

131. Nestrizhenko, Yu.A. (84). Laser radiation frequency selector. Author's certificate USSR, no. 505241, 23 February 1977. (RZhRadiot, 9/77, 9Ye208)

132. Reza, A.A., G.A. Babonas, and A.Yu. Shileyka (50). Possibility of frequency tuning of CdSe parametric optical devices by directional mechanical stress. KE, no.10, 1977, 2257-2260.

133. Volosov, V.D., A.G. Kalintsev, and V.N. Krylov (0). Phase effects in multipass frequency doublers. IN: Sb.1, 119. (RZhRadiot, 10/77, 10Ye189)

134. Yefimovskiy, S.V., I.G. Zubarev, and A.V. Kotov (1). Tunable Raman laser using the third Stokes component in liquid nitrogen. KE, no.9, 1977, 2021-2024.

2. Parametric Processes

135. Mista, L., V. Perinova, and J. Perina (NS). Quantum statistical properties of a degenerate optical parametric amplification process. IN: Sb.1, 263-265. (RZhRadiot, 10/77, 10Ye195)

3. Stimulated Scattering

a. Raman

136. Baklushina, M.I., B.Ya. Zel'dovich, N.A. Mel'nikov, N.F. Pilipetskiy, Yu. P. Rayzer, A.N. Sudarkin, and V.V. Shkunov (17). Evolution of changes in the refraction properties of a gas, induced by stimulated Raman scattering. ZhETF, v.73, no.3, 1977, 831-841.

137. Dzhotyan, G.P., Yu.Ye. D'yakov, I.G. Zubarev, A.B. Mironov, and S.I. Mikhaylov (1). Amplification from nonmonochromatic pumping by stimulated Raman scattering. ZhETF, v.73, no.3, 1977, 822-830.

138. Herrmann, J. (NS). Stimulated resonance Raman scattering in excited and unexcited molecules. Forschritte der Physik, no.3, 1977, 167-201. (RZhF, 10/77, 10D1141)

139. Lugovoy, V.N. (1). The possibility of synchronizing the components of stimulated Raman radiation in an optical resonator with a dispersant medium. KE, no.9, 1977, 1964-1973.

140. Morozova, Ye.A., and A.I. Sokolovskaya (1). Spectral splitting of stimulated Raman scattering. KE, no.9, 1977, 2052-2057.

141. Sokolovskiy, R.I. (0). Quantum intensity fluctuations under stimulated Raman scattering. OiS, v.43, no.3, 1977, 445-452.

b. Miscellaneous Scattering

142. Kyncheva, L. (0). Dependence of the line shape of resonance scattering on the length of the system studied. DBAN, no.12, 1976, 1741-1744. (RZhF, 9/77, 9D1178)

143. Zel'dovich, B.Ya., and V.V. Shkunov (1). Boundaries of the existence of the effect of the reversal of a wavefront during stimulated scattering. Fizicheskiy institut AN SSSR. Kvantovaya radiofizika. Preprint, no.35, 1977, 17p. (RZhF, 10/77, 10D1150)

144. Zel'dovich, B.Ya., and V.V. Shkunov (1). Effect of spatial interference on amplification during stimulated scattering. Fizicheskiy institut AN SSSR. Kvantovaya radiofizika. Preprint, no.62, 1977, 18p. (RZhF, 9/77, 9D1175)

4. Self-focusing

145. Lopatnikov, S.L. (148). Theory of self-focusing of waves in media with nonlocal nonlinearity. Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln AN SSSR. Preprint, no.5 (179), 1977, 38p. (RZhF, 10/77, 10D1120)

146. Mattar, F.P. (NS). Theory and experiments on resonance self-focusing of optical radiation in absorbers. IN: Sb.1, 507. (RZhRadiot, 10/77, 10Ye337)

147. Mattar, F.P. (NS). Theory and experiments on resonance self-focusing of optical radiation in absorbers. IN: Sb.1, 508-510. (RZhRadiot, 10/77, 10Ye348)

148. Radchenko, V.V., and G.M. Fedorov (98). Nonstationary thermal self-focusing of laser radiation in optical glass. Deposit at VINITI, no. 2515-77, 23 June 1977, 37p. (RZhF, 10/77, 10D1124)

5. Acoustic Interaction

149. Akhmanov, S.A., and V.I. Yemel'yanov (2). Nonlinear effects during emission of optical and acoustical phonons by resonance IR radiation. KE, no.9, 1977, 2043-2046.

150. Ananyan, A.L., E.I. Krupitskiy, T.N. Sergeyenko, and V.I. Yakovlev (90). Acoustooptical device for analyzing the amplitude spectra of radio signals. Author's certificate USSR, no. 456228, issued 17 February 1977. (RZhRadiot, 9/77, 9Ye179)

151. Avdiyenko, K.I., V.K. Sapozhnikov, V.I. Semenov, and D.V. Sheloput (0). Photoelastic constants in KPS-6 single crystals. Avtometriya, no.5, 1977, 79-83.

152. Demidov, A.Ya. (0). Diffraction of light by hypersound in a $PbMoO_4$ crystal. IN: Sb.7, 72-76. (RZhF, 10/77, 10D1039)

153. Il'chenko, L.N., Yu.L. Oboznenko, and Ye.N. Smirnov (0). Parametric excitation of sound in an acoustooptic deflector of optical radiation. IVUZ Radioelektr., no.10, 1977, 45-49.

154. Karabutov, A.A., Ye.A. Lapshin, G.P. Panasenko, and O.V. Rudenko (0). Nonlinear effects in the excitation of sound by laser radiation. IN: Sb.8, 29-32. (RZhF, 10/77, 10Zh783)

155. Petrov, D.V., A.V. Tsarev, and I.B. Yakovkin (10). Acoustooptic mode conversion in a diffusion waveguide using a lithium niobate surface. ZhTF P, no.18, 1977, 933-937.

156. Smolenskiy, G.A., M.A. Garsia, S.A. Mironov, and A.N. Ageyev (4). Obtaining contractions of pulsed signals by means of acoustooptic interaction in film lightguides. ZhTF P, no.17, 1977, 893-897.

157. Yegorov, Yu.V.(0). Theory of an acoustooptic correlator with a two-dimensional reference transparency. IN: Sb.7, 15-20. (RZhF, 10/77, 10D1546)

158. Yesipov, I.B., and K.A. Naugol'nykh (0). Optical generation of sound. IN: Sb.8, 17-19. (RZhF, 10/77, 10Zh782)

6. General Theory

159. Badziak, J. (NS). Nonlinear amplification of a laser pulse in a two-component medium. Part 1. Theory. BWAT, no.4, 1977, 109-120. (RZhF, 9/77, 9D1181)

160. Badziak, J. (NS). Nonlinear amplification of a laser pulse in a two-component medium. Part 2. Experiment. BWAT, no.4, 1977, 121-129. (RZhRadiot, 9/77, 9Ye64)

161. Kusch, S., and R. Guether (NS). Distortion of a high-power laser beam during passage through a prism. IN: Sb.1, 115-116. (RZhRadiot, 10/77, 10Ye293)

162. Kutukov, V.B., Yu.K. Ostrovskiy, and Yu.I. Yalamov (376). Nonlinear scattering of laser radiation by an absorption particle moving in a gas. ZhTF, no.9, 1977, 2003-2004.

163. Schubert, M. (NS). Influence of coherence properties on nonlinear optical processes. IN: Sb.1, 19-20. (RZhRadiot, 10/77, 10Ye347)

164. Zon, B.A., and Yu.N. Mitin (0). Disturbance of paramagnetic ion spectra by high-power electromagnetic radiation at a nonresonant frequency. OiS, v.43, no.3, 1977, 535-541.

G. SPECTROSCOPY OF LASER MATERIALS

165. Jablonska-Giszter, M., B. Radomska, K. Bukietynska, and B. Jezowska-Trzebiatowska (NS). Spectroscopic studies of liquid laser systems. Bulletin de l'Academie Polonaise des Sciences. Serie de Sciences Chemiques, no.2, 1977, 143-150. (RZhF, 10/77, 10D1194)

166. Kovaleva, N.S., and B.G. Ivanov (0). Sensitization of neodymium by cerium ions in YAG crystals. ZhPS, v.23, no.3, 1977, 546-548.

H. ULTRASHORT PULSE GENERATION

167. Abakumov, G.A., A.I. Antipov, G.N. Baldenkov, A.P. Simonov, and V.V. Fadeyev (2). The effect of induced reduction of the absorber relaxation time on the dynamics of ultrashort light pulse shaping. KE, no.10, 1977, 2279-2282.

168. Bryukner, F., V.S. Dneprovskiy, and V.N. Chumash (2). Optically pumped subnanosecond dye laser. ZhTF P,no.19, 1977, 1020-1022.

169. Herrmann, J., and B. Weidner (NS). Statistical properties of phase and amplitude of ultrashort pulses generated in a solid-state laser with a saturable filter. IN: Sb.1, 236-238. (RZhRadiot, 10/77, 10Ye144)

170. Kaiser, W., and A. Laubereau (NS). Investigations using ultrashort light pulses. IN: Sb.1, 7-8. (RZhRadiot, 10/77, 10Ye349)

171. Makhviladze, T.M., I.G. Sinitsyn, and L.A. Shelepin (0). Using ultrashort pulses for selective processes. ZhTF P, no.19, 1977, 1013-1016.

J. THEORETICAL ASPECTS OF ADVANCED LASERS

172. Andreyev, A.V., Yu.A. Il'inskiy, and R.V. Khokhlov (2). The role of collective and induced processes in the generation of Moessbauer gamma radiation. ZhETF, v.73, no.4, 1977, 1296-1300.

173. Basov, N.G., A.N. Brunin, S.G. Burdin, V.A. Danilychev, A.G. Degtyarev, V.A. Dolgikh, O.M. Kerimov, A.N. Lobanov, and A.F. Suchkov (1). High-pressure gas lasers using electron transitions of molecules. Fizicheskiy institut AN SSSR. Preprint, no.23, 1977, 85p. (RZhF, 9/77, 9D1238)

174. Sobel'man, I.I. (0). Problem of lasers in the far ultraviolet and soft X-ray regions of the spectrum. IN: Sb.1, 15-16. (RZhRadiot, 10/77, 10Ye182)

K. GENERAL LASER THEORY

175. Bergmann, J., K. Kneipp, and H.E. Ponath (NS). Raman-induced Kerr effect in single crystals. IN: Sb.1, 154-156. (RZhRadiot, 10/77, 10Ye345)

176. Bialynicka-Birula, Z. (NS). Multiple optical resonances. IN: Sb. 1, 277-279. (RZhRadiot, 10/77, 10Ye10)

177. Chrostowski, J., and T. Warenycia (NS). Two-photon absorption of a dual-mode laser beam with phase diffusion. IN: Sb.1, 260-262. (RZhRadiot, 10/77, 10Ye11)

178. Cone, G. (NS). Two-boson lasers. Studii si cercetari de fizica, no.3, 1977, 247-259. (RZhF, 10/77, 10D1146)

179. Deryugin, I.A., S.S. Abdullayev, and Ag.T. Mirzayev (227). Coherence of the electromagnetic field in dielectric waveguides. KE, no.10, 1977, 2173-2181.

180. Karamaliyev, R.A. (86). Interaction of two high-power traveling waves with a two-level system. IN: Tr. 1, 112-118. (RZhF, 9/77, 9D1133)

181. Karapetyan, R.V., and M.V. Fedorov (1). Effect of an intense electromagnetic wave on the process of stimulated bremsstrahlung of electrons. KE, no.10, 1977, 2203-2215.

182. Khvalovskiy, V.V., S.N. Natarovskiy, and V.I. Nalivayko (30). Method for producing an extended source of coherent light. IVUZ Priboro, no.9, 1977, 108-112.

183. Korolev, V.F. (2). Stimulated emission from a rotating anharmonic oscillator. KE, no.9, 1977, 2046-2049.

184. Malyshev, V.A. (0). Theory of resonator laser amplifiers. IN: Sb.9, 3-8. (RZhRadiot, 10/77, 10Ye12)

185. Ponath, H.E., and M. Schubert (NS). Fluctuation and relaxation properties of a two-level system influenced by a nonstationary external field. IN: Sb.1, 280-281. (RZhRadiot, 10/77, 10Ye2)

186. Schuette, F.J., and T.V. Trung (NS). Statistical behavior of a system of interacting boson field modes. IN: Sb. 1, 267-268. (RZhRadiot, 10/77, 10Ye9)

187. Steudel, H., and Th. Richter (NS). Radiation properties of a pumped two-atom system. IN: Sb.1, 269-271. (RZhRadiot, 10/77, 10Ye3)

188. Stratonovich, R.L. (2). Phase transitions in three-dimensional two-level systems. KE, no.10, 1977, 2141-2149.

189. Suesse, K.E., and D.G. Welsch (NS). Nonradiative phase relaxation of excited molecular vibrational levels. Experimentalle Technik der Physik, no.6, 1976, 511-517. (RZhRadiot, 10/77, 10Ye1)

190. Vinokurov, G.N. (O). Limit values of the population inversion accumulated in restricted volumes. KE, no.9, 1977, 1974-1980.

II. LASER APPLICATIONS

A. BIOLOGICAL EFFECTS

191. Abel'masova, Ye.A., V.M. Baykov, N.N. Yevtikhiyev, M.R. Kaplanov, M.D. Petrushin, and A.I. Fefer (0). Using a laser to treat chronic scar-trophic ulcers. IN: Sb 5, 116-118. (RZhRadiot, 10/77, 10Ye431)

192. Isakov, V.L., Ya.Ya. Popov, R.A. Kharzhevskiy, V.M. Pnenichnyy, and A.I. Koba (0). Apparatus for laser therapy. Otkr izobr, no. 33, 1977, 555576.

193. Krasnov, M.M. (0). Method for treating cataracts. Otkr izobr, no. 44, 1977, 581941.

194. Krasnov, M.M. (0). Method for attaching an artificial lens in the eye. Otkr izobr, no. 44, 1977, 581942.

195. Stepanov, B.I., V.A. Mostovnikov, A.N. Rubinov, and I.V. Khokhlov (67). Regulating the functional activity of human cells by laser radiation. DAN SSSR, v. 236, no. 4, 1977, 1007-1014.

196. Volodin, N.A., Yu.A. Gutmakher, V.A. Kirillenko, A.E. Nudel'man, B.L. Reznikov, A.M. Rozenberg, V.N. Suchkov, and Yu.L. Tverskoy (0). Laser ophthalmocoagulator. Otkr izobr, no. 41, 1977, 554789.

B. COMMUNICATIONS SYSTEMS

197. Aleshkevich, N.I., A.I. Voytenkov, and V.P. Red'ko (321). Producing optical waveguides in barium crown and flint glasses by a solid-state Ag and Cu diffusion method. KE, no. 10, 1977, 2254-2257.

198. Anikin, V.I., and L.A. Osadchev (0). TiO_2 plane optical waveguide. Mikroelektronika, no. 4, 1977, 369-370. (RZhRadiot, 10/77, 10Ye236)

199. Anikin, V.I., L.N. Deryugin, A.N. Polovinkin, and V.Ye. Sotin (14). Experimental study of plane optical Ta_2O_5 lightguides prepared by a reactive cathode sputtering method. ZhTF, no. 10, 1977, 2163-2166.

200. Arsen'yan, T.I., A.A. Semenov, and A.A. Tishchenko (2). A system for transmitting two-dimensional images through a randomly inhomogeneous medium. KE, no. 9, 1977, 2002-2003.

201. Belov, A.V., A.N. Gur'yanov, G.G. Devyatykh, Ye.M. Dianov, V.B. Neustruyev, A.V. Nikolaychik, A.M. Prokhorov, V.F. Khopin, and A.S. Yushin (1,297). Glass fiber lightguide with losses less than one dB/km. KE, no. 9, 1977, 2041-2043.

202. Belov, A.V., A.N. Gur'yanov, Ye.M. Dianov, V.G. Lukain, V.B. Neustruyev, Ye.P. Nikitin, and A.S. Yushin (0). Study of optical losses in glass fiber lightguides. IN: Sb 1, 327-328. (RZhRadiot, 10/77, 10Ye233)

203. Belovolov, M.I., Ye.M. Dianov, V.I. Pelipenko, A.M. Prokhorov, and I.N. Sisakyan (0). Connecting computer units by means of glass fiber lightguides with low losses. IN: Sb 1, 346. (RZhRadiot, 10/77, 10Ye278)

204. Bykovskiy, Yu.A., Yu.P. Zakharov, A.V. Makovkin, V.K. Malyshev, V.I. Molochev, V.L. Smirnov, O.N. Talenskiy, and A.V. Shmal'ko (16). Functional elements of integrated optical systems based on epitaxial GaAlAs-GaAs heterostructures. KE, no. 9, 1977, 2007-2009.

205. Dolinin, N.A. (O). Local optimization of algorithms for detecting a packet of fluctuating optical pulses. Cited in IVUZ Fiz, no. 9, 1977, 156.

206. Dumitrica, A. (NS). Laser communications systems. Studii si cercetari de fizica, no. 4, 1977, 403-423. (RZhF, 10/77, 10D1337)

207. Dzhibladze, M.I., B.S. Lezhava, V.S. Chagulov, and T.Ya. Chelidze (O). Effect of an optical fiber on the coherence of laser radiation. IN: Sb 5, 155-162. (RZhRadiot, 9/77, 9Ye120)

208. Gerdler, Ye.V., V.Ye. Iosifov (O). Optomechanical laser scanning device for recording information. IN: Sb 10, 98-105. (RZhRadiot, 9/77, 9Ye103)

209. Godik, E.E., V.V. Grigor'yants, V.V. Dementiyenko, G.A. Ivanov, A.I. Kuznetsov, and V.P. Sinis (15). Possibility of using phosphorsilicate lightguides in the near IR region. KE, no. 9, 1977, 2039-2040.

210. Goncharenko, A.M., V.I. Lebedev, V.P. Red'ko, V.I. Borisov, V.K. Kiselev, R.Ye. Pogorelov, and L.M. Shteyngart (O). Problems in developing integrated optical devices. IN: Sb 1, 342-343. (RZhRadiot, 10/77, 10Ye258)

211. Hamal, K. (NS). Satellite ranging using lasers. IN: Sb 1, 25-26. (RZhRadiot, 10/77, 10Ye366)

212. Helsztynski, J., M. Rzewuski, W. Jasiewicz, R. Car, L. Sliwa, and L. Lewandowski (NS). Optical link at 0.6328 μ. IN: Sb 1, 501-503. (RZhRadiot, 10/77, 10Ye265)

213. Ivanov, A.P., I.I. Kalinin, and A.I. Kolesnik (0). Effect of the blurring of an optical pulse over a period of time, on the efficiency of probing and communications systems. IN: Sb 11, 113. (RZhRadiot, 10/77, 10Ye277)

214. Kompanets, I.N., A.S. Levichev, P.N. Semochkin, A.V. Smolya, and A.G. Sobolev (0). Electrically-controlled transparency by a 32x32 element based on a lanthanum-doped zirconate-titanate lead ceramic. IN: Sb 1, 347-348. (RZhRadiot, 10/77, 10Ye290)

215. Konarev, V.P., I.N. Matveyev, and V.V. Protopopov (0). Selecting the parameters of an active optical waveguide with quadratic distribution of the refractive index. KE, no. 9, 1977, 1990-1991.

216. Kovar, J. (NS). Optical waveguides for communications technology. Sdelovaci technika, no. 3, 1977, 109-111. (RZhRadiot, 10/77, 10Ye232)

217. Kozlovskiy, V.I., A.S. Nasibov, A.N. Pechenov, Yu.M. Popov, and P.V. Reznikov (1). Obtaining laser cathode-ray operation in a television mode at room temperature of the laser screen. KE, no. 10, 1977, 2246-2248.

218. Kuchikyan, L.M., and P.I. Sidak (0). Spatial coherence of light propagating through a lightguide. OiS, v. 43, no. 3, 1977, 518-522.

219. Kuchikyan, L.M., and A.V. Volyar (435). Depolarization of light by cylindrical two-layer fiber lightguides. UFZh, no. 10, 1977, 1658-1666.

220. Malov, A.N., V.N. Morozov, I.N. Kompanets, and Yu.M. Popov (1). Image formation in a coherent system with a synthesized aperture. KE, no. 9, 1977, 1981-1989.

221. Odintsov, V.I. (0). Transmission of an information signal in a stimulated light scattering amplifier with wideband pumping. OiS, v. 43, no. 4, 1977, 747-754.

222. Pozhidayev, V.N. (0). Feasibility of communication lines in the ultraviolet based on the molecular and aerosol scattering effect in the atmosphere. RiE, no. 10, 1977, 2173-2179.

223. Schicketanz, D. (NS). Information transmission over fiber waveguides. IN: Sb 1, 41-43. (RZhRadiot, 10/77, 10Ye264)

224. Shevelevich, R.S., A.N. Izotov, V.N. Tabrin, V.P. Konarev, I.N. Matveyev, and V.N. Lomakin (0). Theoretical and experimental studies of lasing and amplification of light in dielectric waveguides. IN: Sb 5, 183-185. (RZhF, 10/77, 10D1167)

225. Smolenskiy, G.A., M.A. Garsia, S.A. Mironov, A.N. Ageyev, B.P. Trubitsyn, and O.N. Obrubov (4). Diffraction of optical waveguide modes by standing surface elastic waves. ZhTF P, no. 17, 1977, 878-882.

226. Zolotov, Yu.M., V.M. Pelekhatyy, and A.M. Prokhorov (1). Study of tunnel excitation and radiation of diffuse optical waveguides. KE, no. 10, 1977, 2196-2202.

C. BEAM PROPAGATION

1. In the Atmosphere

227. Abramochkin, A.I., and A.A. Tikhomirov (0). Estimating the active range of a lidar. IN: Sb 12, 91-92. (RZhGeofiz, 10/77, 10B147)

228. Abramochkin, A.I., and A.A. Tikhomirov (0). Engineering calculation of the optical parameters of a lidar transceiver. IN: Sb 12, 92. (RZhGeofiz, 10/77, 10B148)

229. Abramochkin, A.I., P.P. Vaulin, I.V. Samokhvalov, and A.A. Tikhomirov (0). Device for measuring the transparency of the atmosphere. IN: Sb 12, 92. (RZhGeofiz, 10/77, 10B149)

230. Aref'yev, V.N., V.I. Dianov-Klokov, and N.I. Sizov (220). Study of the attenuation of CO_2 laser radiation in the atmosphere. IN: Tr 2, 109-128.

231. Artemov, V.M., Ye.M. Artemov, N.D. Balyasnyy, A.V. Gorelik, I.M. Nazarov, Sh.D. Fridman, L.I. Solov'yeva, and V.I. Chernen'kiy (0). Determining the concentration of ammonia along an extended path according to the resonant absorption of CO_2 laser radiation. Meteorologiya i gidrologiya, no. 7, 1977, 103-108. (RZhGeofiz, 10/77, 10B153)

232. Ashkinadze, D.A., V.I. Belobrovik, and B.B. Vilenchits (0). Possibility of optically detecting thermally-polluting gases in the atmosphere from infrared emission spectra. IN: Sb 11, 37-39. (RZhRadiot, 10/77, 10Ye386)

233. Astafurov, V.G., and G.N. Glazov (0). Statistics of photoresponses and regimes for recording an atmospheric lidar signal. IN: Sb 12, 87-88. (RZhGeofiz, 10/77, 10B141)

234. Balin, Yu.S., Yu.M. Vorevodin, A.I. Grishin, I.V. Samokhvalov, and G.G. Matviyenko (0). Measuring the lidar equation in the surface boundary layer. IN: Sb 12, 66-67. (RZhGeofiz, 10/77, 10B128)

235. Balin, Yu.S., B.V. Kaul', and I.V. Samokhvalov (0). Use of double scattering in laser probing of the atmosphere. IN: Sb 11, 105-109. (RZhRadiot, 10/77, 10Ye387)

236. Baryshnikov, V.F., O.P. Bovkova, and I.Ya. Shapiro (0). Instrument for measuring the refraction of optical waves in the atmosphere. IN: Sb 12, 92. (RZhGeofiz, 10/77, 10B150)

237. Belov, M.L., and V.M. Orlov (0). The influence of atmospheric turbulence on wave dispersion by a surface. KE, no. 10, 1977, 2135-2140.

238. Birger, Ye.M., and L.N. Razumov (134). Holography of a moving aqueous aerosol. IN: Tr 3, 73-80.

239. Birich, L.N., A.I. German, T.A. Knyaz', and Yu.V. Maksimov (134). Technical possibilities of determining the upper limit of medium and low cloud levels from satellite-borne lidar. IN: Tr 3, 37-43.

240. Birich, L.N., and A.I. German (0). Using a logarithmic photodetector to determine the coefficient of attenuation in clouds during pulsed laser probing. IN: Sb 12, 17-19. (RZhGeofiz, 10/77, 10B104)

241. Bobylev, L.P., A.O. Izyumov, and G.G. Shchukin (207). Fluctuations of optical thickness and radio-brightness temperature of the atmosphere in the millimeter and submillimeter bands. IN: Tr 4, 32-39.

242. Bogdalov, Z.Kh., Yu.S. Selin, and I.Ya. Shapiro (0). Matching device for measuring angles of arrival and C_n^2. IN: Sb 12, 94. (RZhGeofiz, 10/77, 10B138)

243. Borovoy, A.G. (0). Propagation of light in atmospheric precipitations. IN: Sb 11, 61-64. (RZhRadiot, 10/77, 10Ye395)

244. Borovoy, A.G., and A.G. Rogachevskiy (0). Statistical characteristics of intensity during multiple scattering of light in precipitation. IN: Sb 13, 51-63. (RZhGeofiz, 9/77, 9B164)

245. Brylev, G.B., V.Ye. Zuyev, I.V. Samokhvalov, V.D. Stepanenko, A.A. Fedorov, and V.Ya. Shaparev (207). Measuring the parameters of clouds by a meteorological radar station -- lidar complex. IN: Tr 4, 22-31.

246. Bukatyy, V.I., and M.F. Nebol'sin (0). Dynamics of the transparency of artificial fog subjected to the action of pulsed CO_2 laser radiation. Cited in IVUZ Fiz, no. 9, 1977, 159.

247. Dolinin, N.A. (0). Study of an optimal multifilter system for laser probing of the atmosphere. Cited in IVUZ Fiz, no. 9, 1977, 156.

248. Dugin, V.P., V.S. Maksimyuk, and S.O. Mirumyants (0). Spectral transmissivity of artificial crystalline cloud formations. IN: Sb 12, 23-28. (RZhGeofiz, 10/77, 10B109)

249. Dyabin, Yu.P., and A.I. Sitnikov (0). Using a logarithmic high-speed detector in optical ranging. IN: Sb 12, 20. (RZhGeofiz, 10/77, 10B105)

250. Fedorov, A.A., V.I. Frolov, and V.Ya. Shaparev (207). Recording echo signals at a meteorological radar station -- lidar complex. IN: Tr 4, 134-139.

251. Filippov, V.L., and V.P. Ivanov (0). Quantitative aspects of the effect of the air humidity on aerosol attenuation of radiation in the atmosphere. IN: Sb 11, 169-173. (RZhRadiot, 10/77, 10Ye396)

252. German, A.I., A.P. Tikhonov, and A.Ye. Tyabotov (134). Results from statistical processing of measurements on the degree of polarization of laser radiation reflected from clouds and cloud cover. IN: Tr 3, 44-49.

253. German, A.I., A.P. Tikhonov, and A.Ye. Tyabotov (134). Study of clouds, using the background noise from the cloud cover according to the signal characteristics of reflected laser radiation. IN: Tr 3, 50-54.

254. German, A.I., V.V. Knyaz'kin, and G.Ye. Shulyakovskiy (0). Study of the attenuation of laser radiation in clouds. IN: Sb 12, 46. (RZhGeofiz, 10/77, 10B103)

255. German, A.I., A.P. Tikhonov, and A.Ye. Tyabotov (0). Results of studying the degree of polarizations and the coefficients of backscatter of laser radiation, from aircraft. IN: Sb 12, 114. (RZhGeofiz, 10/77, 10B114)

256. Glazov, G.N., and G.A. Titov (0). Characteristics of lidar signals from broken clouds. IN: Sb 12, 21-23. (RZhGeofiz, 10/77, 10B108)

257. Glazov, G.N., G.M. Igonin, and O.L. Tuzov (0). Potential accuracy in measuring the turbulent velocity in the atmosphere by means of a laser Doppler velocimeter. IN: Sb 12, 69. (RZhGeofiz, 10/77, 10B132)

258. Glazov, G.N., G.M. Igonin, T.M. Tikhostup, and O.L. Tuzov (0). Laser Doppler velocimeter for studying boundary layer turbulence. IN: Sb 12, 69-70. (RZhGeofiz, 10/77, 10B131)

259. Gorshkov, V.S., V.I. Yeremin, K.S. Lamden, V.V. Simakin, and K.S. Shifrin (0). Measuring the oblique transparency of the atmosphere by a lidar method. IN: Sb 12, 54-61. (RZhGeofiz, 10/77, 10B118)

260. Goryachev, B.V., and G.A. Kaloshin (0). Study of the statistical characteristics of radiation propagating in a turbid atmosphere. IN: Sb 13, 63-68. (RZhF, 9/77, 9D1114)

261. Grigor'yev, V.M., Ye.A. Kolyushenko, and N.L. Generozov (0). Experiments on observing clouds by a laser system with high spatial-time resolution. IN: Sb 12, 28. (RZhGeofiz, 10/77, 10B110)

262. Grigor'yev, V.M., Ye.A. Kolyushenko, and N.L. Generozov (0). Some characteristics of laser probing of the cloud ceiling. IN: Sb 12, 28-29. (RZhGeofiz, 10/77, 10B111)

263. Gurevich, G.S., V.M. Zakharov, and V.Ye. Rokotyan (0). Calculating the effect of the atmosphere on laser studies of the sea state from satellites. IN: Sb 11, 127-128. (RZhRadiot, 10/77, 10Ye389)

264. Gurevich, G.S., and V.Ye. Rokotyan (0). Reflection of an optical pulse from the sea surface. IN: Sb 12, 85-87. (RZhGeofiz, 10/77, 10B140)

265. Irisov, A.L., V.S. Kozlov, and V.Ya. Fadeyev (0). Laboratory nephelometer for measuring the matrix of light scattering by aero- and hydrosols. IN: Sb 13, 109-128. (RZhGeofiz, 9/77, 9B168)

266. Irisov, A.L., V.G. Oshlakov, M.V. Panchenko, A.G. Tumakov, and V.Ya. Fadeyev (0). Apparatus and methods for studying the angular characteristics of scattering in atmospheric air. IN: Sb 13, 129-140. (RZhGeofiz, 9/77, 9B169)

267. Ivanenko, B.P., G.M. Krekov, and G.A. Titov (0). Using time asymptotics to determine the absorption coefficient [of clouds]. IN: Sb 12, 36. (RZhGeofiz, 10/77, 10B113)

268. Ivanov, A.I., and I.A. Fedulin (0). Statistical relationships of aerosol attenuation in the atmosphere. IN: Sb 11, 147-149. (RZhRadiot, 10/77, 10Ye397)

269. Ivanov, A.P., A.B. Gavrilovich, and P.Ya. Ganich (0). Study of the transmission of an optical image in a cloudy atmosphere over an inclined path. IN: Sb 11, 53-55. (RZhRadiot, 10/77, 10Ye394)

270. Ivanov, A.P., and I.I. Kalinin (0). Estimating the maximum distance for detecting a stratified structure in fog and clouds by a laser probing method. IN: Sb 12, 30. (RZhGeofiz, 10/77, 10B112)

271. Ivanov, Ye.V., V.Ya. Korovin, and Yu.S. Sedunov (220). Movement of optically dense drops of liquid in a laser radiation field. KE, no. 9, 1977, 1873-1881.

272. Kabanov, M.V., M.V. Panchenko, Yu.A. Pkhalagov, and V.N. Uzhegov (0). Determining the composition of a marine aerosol from optical research data. IN: Sb 11, 153. (RZhRadiot, 10/77, 10Ye391)

273. Karev, V.M., and V.V. Burkov (0). Device for automatically measuring the amplitude of a short signal reflected by the atmosphere. IN: Sb 12, 88. (RZhGeofiz, 10/77, 10B142)

274. Kargin, B.A., S.V. Kuznetsov, and V.S. Malkova (0). Reflection of short optical pulses from cloud layers. IN: Sb 11, 119-120. (RZhRadiot, 10/77, 10Ye388)

275. Kaul', B.V., and I.V. Samokhvalov (0). Measuring the mass concentration of an industrial aerosol by a lidar method. IN: Sb 12, 62. (RZhGeofiz, 10/77, 10B119)

276. Klepando, I.L., O.K. Kostko, G.A. Krikunov, N.D. Smirnov, and V.U. Khattatov (0). Measuring the humidity of the surface boundary layer. IN: Sb 12, 77. (RZhGeofiz, 10/77, 10B135)

277. Knyaz'kin, V.V., V.K. Utenkov, and G.Ye. Shulyakovskiy (134). Laser meters for measuring the coefficient of attenuation in clouds. IN: Tr 3, 61-64.

278. Kostin, B.S., and I.E. Naats (0). Numerical study of the information capacity of lidar systems during probing of the microstructure of an aerosol. IN: Sb 12, 66. (RZhGeofiz, 10/77, 10B127)

279. Kostko, O.K. (0). Some problems in determining the properties of the upper atmosphere during propagation of laser radiation. IN: Sb 12, 73. (RZhGeofiz, 10/77, 10B133)

280. Kostko, O.K. (0). Determining the standard meteorological parameters of the atmosphere from laser probing. IN: Sb 12, 73-76. (RZhGeofiz, 10/77, 10B124)

281. Kostko, O.K. (134). Determining standard meteorological parameters of the atmosphere by lidar. IN: Tr 3, 3-13.

282. Kostko, O.K., V.M. Orlov, and V.N. Shuleykin (134). Transfer function of the near zone of a pulsed lidar. IN: Tr 3, 28-36.

283. Kovalev, V.A., Ye.Ye. Rybakov, and G.G. Shchukin (207). Some characteristics of lidar signals during a low ceiling. IN: Tr 4, 32-39.

284. Kozlov, V.S., V.F. Panin, G.A. Rapoport, and V.Ya. Fadeyev (0. Study of the optical and microstructural characteristics of smoke aerosols. IN: Sb 13, 78-95. (RZhF, 9/77, 9D1090)

285. Krasnenko, N.P., and S.L. Odintsov (0). Maximum accuracy in measuring the coefficient of backscatter and square-law fluctuations of turbulent velocity by a single-lobe method. IN: Sb 12, 72-73. (RZhGeofiz, 10/77, 10B123)

286. Krekov, G.M., M.M. Krekova, and I.E. Naats (0). Effect of errors in a priori selection of aerosol characteristics and multiple scattering background noise, on the accuracy of lidar measurements. IN: Sb 12, 42. (RZhGeofiz, 10/77, 10B115)

287. Kruglov, R.A. (207). Determining the transparency of the atmosphere by the level of the constant component of the back-scattering signal. IN: Tr 5, 49-52.

288. Kruglov, R.A. (207). Relationship between the transparency of the atmosphere and a constant component of a back-scattering signal from a pulsed light source. IN: Tr 5, 53-56.

289. Kutelev, A.F., P.P. Vaulin, V.L. Olennikov, and K.G. Stepanov (0). Operating algorithm and composition of a control device and calculations for laser probing of the atmosphere. IN: Sb 12, 90-91. (RZhGeofiz, 10/77, 10B145)

290. Kutelev, A.F., P.P. Vaulin, K.G. Stepanov, and V.L. Olennikov (0). Peripheral devices for calculating the parameters of the atmosphere by means of a "Saratov" computer during laser probing. IN: Sb 12, 91. (RZhGeofiz, 10/77, 10B146)

291. Kuzikovskiy, A.V., and V.A. Pogodayev (78). Combustion of solid aerosol particles under the action of CO_2 laser radiation. FGiV, no. 5, 1977, 783-787,

292. Lagutin, M.F. (220). Laser resonance ranging of the upper atmosphere. IN: Tr 2, 43-59.

293. Lukin, V.P., and I.P. Lukin (0). Propagation of modulated waves in a turbulent atmosphere. Dispersion of phase fluctuations of modulated vibration. RiE, no. 9. 1977, 1965-1969.

294. Marichev, V.N., I.V. Samokhvalov, and A.V. Sosnin (0). Lidar measurements of atmospheric humidity profiles by a method of differential absorption. IN: Sb 12, 77. (RZhGeofiz, 10/77, 10B134)

295. Metlitskiy, B.I., and E.A. Chayanova (134). Optical model of cloud cover. IN: Tr 3, 55-60.

296. Metlitskiy, B.I., and E.A. Chayanova (134). Optical method for compensating the parameters of a reflected lidar pulse. IN: Tr 3, 81-89.

297. Metlitskiy, B.I., and E.A. Chayanova (0). Method for increasing the transmission range of a laser ceilometer. IN: Sb 12, 16. (RZhGeofiz, 10/77, 10B102)

298. Metlitskiy, B.I., and E.A. Chayanova (0). Pulsed function of light scattering by clouds. IN: Sb 12, 20. (RZhGeofiz, 10/77, 10B106)

299. Milyutin, Ye.R. (90). Relationship between the meteorological visibility and transmission range of atmospheric optical communication lines. Deposit at TsNIITEIpriborostroyeniye, no. 712, 15 April 1977, 6 p. (RZhGeofiz, 9/77, 9B170)

300. Milyutin, Ye.R., and V.N. Nikitin (90). A method for measuring the characteristics of a turbulent atmosphere by means of a laser. Deposit at TsNIITEIpriborostreniya, no. 721, 27 April 1977, 9 p. (RZhGeofiz, 10/77, 10B154)

301. Mironov, V.L., and S.I. Tuzova (0). Saturation of dispersion of intensity fluctuations of an optical wave scattered by discrete large-scale inhomogeneities. IN: Sb 11, 84-87. (RZhRadiot, 10/77, 10Ye393)

302. Samokhvalov, I.V., Yu.S. Balin, and V.S. Shamanayev (0). Method for optical probing of the atmosphere. Author's certificate USSR, no. 496524, cited in Sb: Informatsionnyye materialy po gidrometeorologicheskim priboram i metodam nablyudeniy, no. 73, Moskva, Gidrometeoizdat, 1977, 49-50.

303. Samokhvalov, I.V., A.V. Sosnin, and G.S. Khmel'nitskiy (0). Probing of gases of natural and industrial origin by means of a CO_2 laser. IN: Sb 12, 78-82. (RZhGeofiz, 10/77, 10B125)

304. Savchenko, A.V., P.N. Svirkunov, and V.V. Smirnov (220). Emission of ions during laser heating of electrolyte drops. KE, no. 10, 1977, 2182-2188.

305. Serbin, A.I., A.M. Brounshteyn, and K.V. Kazakova (0). Some results of an experimental study of the absorption of CO_2 laser radiation in a water vapor continuum in the surface boundary layer. IN: Sb 12, 82. (RZhGeofiz, 10/77, 10B136)

306. Serbin, A.I., A.M. Brounshteyn, and K.V. Kazakova (207). Propagation of CO_2 laser radiation on horizontal paths in the boundary layer of the atmosphere. IN: Tr 6, 101-108.

307. Shuleykin, V.N. (0). Measuring the optical parameters of cloud media. IN: Sb 12, 21. (RZhGeofiz, 10/77, 10B107)

308. Toporova, T.P., G.V. Bushuyeva, and A.B. Kos'yanenko (0). Aureole region of the indicatrix of scattering of laser light. IN: Sb 11, 195. (RZhRadiot, 10/77, 10Ye399)

309. Torgovichev, V.A. (0). Combination lidar for studying the gas composition of the atmosphere. IN: Sb 12, 87. (RZhGeofiz, 10/77, 10B137)

310. Veretennikov, V.V., and I.E. Naats (0). Determining the lidar equation in problems of lidar ranging. IN: Sb 12, 65. (RZhGeofiz, 10/77, 10B126)

311. Vintslav, G.Ye., V.P. Gusarov, V.M. Sukhovol'skiy, and Yu.V. Kholodov (0). Screen anemometer. IN: Sb 12, 68-69. (RZhGeofiz, 10/77, 10B130)

312. Vintslav, G.Ye., O.K. Kostko, and Yu.V. Kholodov (134). Method for determining wind velocity by a differential meter. IN: Tr 3, 21-27.

313. Yegorov, A.D., and V.D. Stepanenko (0). Analyzing the errors of various methods for determining the coefficient of attenuation in the atmosphere by lidar. IN: Sb 12, 43-52. (RZhGeofiz, 10/77, 10B116)

314. Yeremin, V.I., K.S. Shifrin, V.S. Gorshkov, V.V. Simakin, and K.S. Lamden (0). Laser atmospheric transparency meter. IN: Sb 12, 52-54. (RZhGeofiz, 10/77, 10B117)

315. Zadde, G.O., and G.V. Ushakov (0). Dual-wave polarized lidar for studying an industrial aerosol. IN: Sb 12, 89-90. (RZhGeofiz, 10/77, 10B144)

316. Zakharov, V.M., V.S. Portasov, and I.S. Zhiguleva (0). Methodological problems of lidar ranging of an aerosol atmosphere. IN: Sb 12, 61-62. (RZhGeofiz, 10/77, 10B120)

317. Zakharov, V.M., Ye.M. Birger, S.P. Karlov, and L.N. Razumov (0). Some aspects of using a holographic disdrometer [instrument for measuring size of raindrops] in meteorology. IN: Sb 12, 62-65. (RZhGeofiz, 10/77, 10B121)

318. Zakharov, V.M., B.M. Lysenko, T.G. Makhortova, V.I. Pavlov, V.Ye. Rokotyan, and A.B. Sheynin (0). Laser ranging of the sea surface. IN: Sb 12, 82-85. (RZhGeofiz, 10/77, 10B139)

319. Zamyshlyayev, I.V., L.A. Saburova, and E.A. Chayanova (134). Resonant scattering of pulsed laser radiation by a layer of fluorescent matter. IN: Tr 3, 65-72.

320. Zhiguleva, I.S., O.K. Kostko, and V.S. Portasov (134). Accuracy of measuring temperature and density of the atmosphere by lidar. IN: Tr 3, 14-20.

321. Zhuravlev, V.I., and G.O. Zadde (0). Multipurpose meteorological lidar with a medium active range. IN: Sb 12, 89. (RZhGeofiz, 10/77, 10B143)

322. Zil'berman, I.N., A.D. Klimov, Yu.A. Rozanov, and Ya.Ya. Khadzhiyeva (0). Determining the optical characteristics of polydisperse media by means of laser radiation. IN: Sb 11, 114-118. (RZhRadiot, 10/77, 10Ye398)

323. Zuyev, V.Ye., G.G. Matviyenko, and I.V. Samokhvalov (0). Laser probing of the wind velocity in the atmosphere by a correlative method. IN: Sb 12, 67. (RZhGeofiz, 10/77, 10B129)

324. Zuyev, V.Ye., Yu.M. Vorevodin, A.I. Grishin, G.G. Matviyenko, I.V. Samokhvalov, and N.I. Yurga (0). Lidar studies of horizontal displacements of atmospheric aerosol inhomogeneities. IN: Sb 12, 68. (RZhGeofiz, 10/77, 10B122)

2. In Liquids

325. Korolev, Yu.N., and G.N. Yakovenko (21). Acoustooptic modulation during periodic deformation of a liquid crystal layer. Akusticheskiy zhurnal, no. 5, 1977, 783-787.

326. Lyamshev, L.M., and L.V. Sedov (21). Optical generation of sound in a liquid half-space in the presence of a layer of another liquid at its interface. Akusticheskiy zhurnal, no. 5, 1977, 788-799.

327. Lysikov, Yu.I. (0). Dynamics of a steam-gas bubble formed during laser breakdown in a liquid. ZhPMTF, no. 2, 1977, 39-43.

328. Yegerev, S.V., and K.A. Naugol'nykh (21). Acoustooptic phenomena in a liquid with gas bubbles. Akusticheskiy zhurnal, no. 5, 1977, 738-742.

3. Theory

329. Bozhkov, A.I., and L.L. Gyrdev (1). Effect of liquid surface disturbance on the radiation of a "floating" optoacoustic antenna. ZhTF P, no. 17, 1977, 868-873.

330. Gadomski, W., and M. Roman (NS). Effect of external electric fields on the polarization of a light beam propagating in a statistically isotropic medium. IN: Sb 1, 136-137. (RZhRadiot, 10/77, 10Ye315)

331. Ivanov, A.P., A.A. Afanas'yev, A.B. Gavrilovich, and N.N. Rogovtsov (0). Second Seminar on the Propagation of Optical Radiation in Media, Sochi, 14-24 May 1977. ZhPS, v. 27, no. 3, 1977, 557-558.

332. Kruchenitskiy, G.M. (0). Renormalizing the median field during scattering of a Gaussian beam by a medium with discrete scatterers. IN: Sb 11, 96-99. (RZhRadiot, 10/77, 10Ye392)

333. Krutikov, V.A. (0). Method for calculating the statistical characteristics of optical radiation in a medium with large-scale inhomogeneities. Part 1. IN: Sb 13, 28-40. (RZhGeofiz, 9/77, 9B162)

334. Krutikov, V.A. (0). Method for calculating the statistical characteristics of optical radiation in a medium with large-scale inhomogeneities. Part 2. IN: Sb 13, 41-50. (RZhGeofiz, 9/77, 9B163)

335. Tsibulya, A.B., V.G. Chertov, and A.B. Shereshev (7). Geometric optics and the spatial structure of laser beams. OMP, no. 10, 1977, 66-72.

336. Zvezdin, A.K., and V.A. Kotov (0). Propagation of electromagnetic waves in multilayer gyrotropic structures. Mikroelektronika, no. 4, 1977, 320-326. (RZhRadiot, 10/77, 10Ye312)

D. COMPUTER TECHNOLOGY

337. Balbashov, A.M., A.A. Komlev, A.L. Mikaelyan, A.K. Stolyarov, and A.Ya. Chervonenkis (0). Controlled transparencies using magnetic crystals. KE, no. 9, 1977, 1933-1943.

338. Berezhnoy, A.A., Yu.G. Korolev, Yu.V. Popov, S.V. Prokof'yev, and N.B. Sidorenko (0). Reversible recording of optical information in lead magnoniobate crystals. KE, no. 9, 1977, 2019-2021.

339. Bobrinev, V.I., V.S. Vorob'yev, Yu.Kh. Kagan, M.A. Mayorchuk, A.L. Mikaelyan, and N.B. Nifontov (0). Experimental studies of injection laser holographic memories. Avtometriya, no. 5, 1977, 52-57.

340. Bogachev, V.I., A.A. Zhdanov, and V.G. Mokerov (0). Recording and readout of holograms at various wavelengths in a holographic memory scheme. Avtometriya, no. 5, 1977, 57-62.

341. Brashevan, Yu.V., and Ye.M. Pavlov (0). Automatic tuning system for a laser readout beam, according to the path in permanent optical memory devices. IN: Tr 7, 40-45. (RZhRadiot, 9/77, 9Ye268)

342. Davydov, V.T., and Ye.S. Nezhevenko (0). Spectral analysis of images in an electrooptic processor. Avtometriya, no. 5, 1977, 13-17.

343. Gibin, I.S., M.A. Gofman, S.F. Kibirev, Ye.F. Pen, and P.Ye. Tverdokhleb (0). Holographic memory with information scanning functions. Avtometriya, no. 5, 1977, 37-51.

344. Klyukin, L.M., B.M. Stepanov, and V.A. Fabrikov (0). Magnetic tapes with band domains as optical image recorders. IN: Sb 4, 7-10. (RZhF, 10/77, 10D1568)

345. Klyukin, L.M., L.V. Kolesnikova, I.N. Shibayev, and N.Yu. Shitsevalova (0). Study of a multilayer film structure for recording images. IN: Sb 4, 112. (RZhF, 10/77, 10D1569)

346. Koronkevich, V.P., G.A. Lenkova, and I.A. Mikhal'tsova (0). Kinoform lenses. Part 1. Optical method for preparing a photo template. Avtometriya, no. 5, 1977, 71-79.

347. Nesterikhin, Yu.Ye. (0). Electrooptical systems and automation of research. Avtometriya, no. 5, 1977, 7-12.

348. Petkovsek, J. (NS). Prospects and problems in optical recording of information. Elektrotehnicki vestnik, no. 4, 1976, 204-210. (RZhRadiot, 10/77, 10Ye377)

349. Podpalyy, Ye.A., and A.V. Khromov (0). Methods for calculating the temperature field in thin magnetic tapes while recording optical images on them. IN: Sb 4, 17-19. (RZhF, 10/77, 10D1571)

350. Seydakhmatova, R.T. (19). Some characteristics of using existing tests for monitoring holographic storage elements. IAN Kirg, no. 5, 1977, 35-38.

351. Vasil'yev, A.A., P.V. Vashurin, and I.N. Kompanets (1). Phase controlled transparencies in coherent optical apparatuses performing Walsh and Gilbert transforms. KE, no. 9, 1977, 1917-1925.

E. HOLOGRAPHY

352. Aleksandrov, Ye.P., N.G. Vlasov, V.B. Rovenskiy, and A.Ye. Shtan'ko (0). Holographic method for monitoring the heating of a sealed coil in a hydraulic engine of a bearing unit for a gyroscope. IN: Sb 5, 72-77. (RZhRadiot, 9/77, 9Ye338)

353. Alekseyev-Popov, A.V. (4). Effect of relief-phase modulation on the diffraction efficiency of thin unbleached holograms. ZhTF, no. 9, 1977, 1986-1988.

354. Bakut, P.A., V.A. Bureyev, and I.N. Troitskiy (0). Analyzing the statistical characteristics of holograms recorded without a reference beam. IN: Sb 5, 8-13. (RZhF, 10/77, 10D1343)

355. Bazarskiy, O.V. (0). Scheme for recording and reconstructing longwave Fourier holograms with spectral compression. RiE, no. 9, 1977, 1973-1976.

356. Belkin, V.G., M.A. Vil'kotskiy, A.S. Klyuchnikov, and P.D. Kukharchik (87). Interference-holographic method for displaying the fields of radiative devices. Belorusskiy universitet. Vestnik. Seriya 1, no. 2, 1977, 53-56. (RZhF, 10/77, 10D1364)

357. Belyakov, L.V., D.N. Goryachev, and O.M. Sreseli (4). Spectral distribution of photosensitivity during recording of holograms on chalcogenide glassy semiconductors. ZhTF P, no. 18, 1977, 922-924.

358. Bulatov, Yu.P. (0). Study of the conditions for conserving the function of mutual correlation of the reference and object beams during nonlinear recording of holograms. Cited in IVUZ Fiz, no. 10, 1977, 158.

359. Bureyev, V.A., Yu.V. Zaboruyev, and I.N. Troitskiy (0). Potential accuracy in the reconstruction of an optical field. IN: Sb 5, 14-18. (RZhRadiot, 9/77, 9Ye324)

360. Burmakov, A.P., V.I. Karaban', and A.A. Labuda (87). Interference-holographic method for monitoring the smoothness of silicon plates used in producing integrated circuits. Belorusskiy universitet. Vestnik. Seriya 1, no. 2, 1977, 80-82. (RZhF, 10/77, 10D1365)

361. Bykovskiy, Yu.A., N.N. Yevtikhiyev, and A.I. Larkin (0). Possibility of using a YAG:Nd laser in holography. IN: Sb 5, 210-215. (RZhF, 10/77, 10D1354)

362. Gafanovich, G.Ya., A.S. Litvinenko, and I.P. Mikhaylovskaya (0). Device for preparing artificial holograms of cylindrical surfaces. IT, no. 9, 1977, 36-37.

363. Gal'perin, A.D., I.M. Kliot-Dashinskaya, D.I. Stasel'ko, and A.L. Churayev (0). Study of the structure of images of coherently illuminated objects observed through a moving random amplitude mask. OiS, v. 43, no. 4, 1977, 766-770.

364. Glauberman, A.S., M.F. Kustov, and V.I. Ryasnoy (0). Preparation of half-tone holographic phototransparencies. IN: Sb 5, 81-85. (RZhRadiot, 9/77, 9Ye323)

365. Gubkin, Yu.S. (30). Method and instrument for interpreting holographic interference patterns. Deposit at VINITI, no. 2517-77, 23 June 1977, 7 p. (RZhF, 10/77, 10D1353)

366. Gubkin, Yu.S., V.A. Moskalev, and I.M. Nagibina (30). Reconstructing a three-dimensional temperature field from a holographic interferogram. Deposit at VINITI, no. 2520-77, 23 June 1977, 9 p. (RZhF, 10/77, 10D1363)

367. Hesse, G., and [no initial] Hoffmann (NS). Study of the transformational properties and aberrations of three-dimensional holograms. IN: Sb 1, 402-404. (RZhRadiot, 10/77, 10Ye462)

368. Khromykh, V.G., and A.I. Kremer (0). Possibility of measuring the tangential components of a velocity vector by methods of spatial processing of the signals. IN: Sb 5, 86-90. (RZhRadiot, 9/77, 9Ye339)

369. Kiva, V.I., Ye.V. Tsukerman, and V.M. Shakhlevich (7). Raising the density of recording in holographic microfilming. OMP, no. 10, 1977, 48-52.

370. Krasnov, A.Ye. (285). Thick-layered phase holograms recorded by means of coded reference waves. KE, no. 9, 1977, 2011-2013.

371. Kurashov, V.N., D.V. Podanchuk, and V.G. Chemeris (51). Effect of photomaterial nonlinearity in three-beam polarization holography. KE, no. 10, 1977, 2157-2165.

372. Mandel', V.Ye. (240). Recording three-dimensional phase holograms on additively colored KCl:Cu crystals. ZhTF P, no. 19, 1977, 999-1002.

373. Mirovitskiy, D.I., I.F. Budagyan, and S.N. Belov (0). Theory of inhomogeneous holographic media. IN: Sb 5, 19-44. (RZhF, 10/77, 10D1342)

374. Mirovitskiy, D.I., and A.N. Titov (0). Problem of constructing an electrooptic complex for classifying signals. IN: Sb 5, 65-71. (RZhRadiot, 10/77, 10Ye266)

375. Petrov, M.P., S.I. Stepanov, and V.I. Belotitskiy (4). Device for forming and reconstructing binary holograms. Otkr izobr, no. 33, 1977, 496906.

376. Popov, S.A., Yu.S. Zinov'yev, and A.Ya. Pasmurov (0). Methods of Fourier radioholography. IN: Sb 5, 119-132. (RZhRadiot, 9/77, 9Ye314)

377. Rozhkov, O.V. (0). Effect of the properties of the recording medium on the dynamics of the ranges of a holographic image. IN: Sb 10, 59-63. (RZhRadiot, 9/77, 9Ye333)

378. Rozhkov, O.V. (0). Analyzing the image quality of a complex object reconstructed from an arbitrary-type hologram. IN: Sb 10, 63-68. (RZhRadiot, 9/77, 9Ye320)

379. Stepanov, S.I., M.P. Petrov, and A.A. Kamshilin (4). Diffraction of light with a rotated plane of polarization, by three-dimensional holograms in electrooptic crystals. ZhTF P, no. 17, 1977, 849-854.

380. Sukhanov, V.I., Yu.V. Ashcheulov, and A.Ye. Petnikov (7). Apparatus for measuring the parameters of holograms on electrooptic crystals. OMP, no. 10, 1977, 29-31.

381. Usanov, Yu.Ye., N.L. Kosobokova, and G.P. Tikhomirov (7). Study on the dependence of the diffraction efficiency of holograms on the sizes of the exposed particles of silver. OMP, no. 9, 1977, 15-18.

382. Usanov, Yu.Ye., G.Ye. Mikhaylova, and A.A. Leshchev (0). Holographic method for studying the gelation kinetics of gelatin layers. ZhNiPFiK, no. 5, 1977, 342-347.

383. Vishnevskaya, S.M., E.I. Vologdin, and V.I. Shugayev (0). Study of the tolerable displacement of a carrier during the element-by-element holographic recording of high-density sound. IN: Sb 10, 68-73. (RZhRadiot, 9/77, 9Ye313)

384. Vlasov, N.G., R.V. Ryabova, and S.P. Semenov (0). Leith holograms reconstructed in white light. ZhNiPFiK, no. 5, 1977, 384-385.

385. Yarmosh, N.A., V.K. Yerokhovets (414). Selecting transparencies for holographic documentation. IAN B, no. 4, 1977, 82-86.

386. Yevtikhiyev, N.N., L.V. Babin, A.I. Plis, and V.I. Pronyushkin (0). Longwave echo-holography of periodic wave processes. IN: Sb 5, 138-146. (RZhRadiot, 9/77, 9Ye340)

387. Yevtikhiyev, N.N., L.V. Babin, A.I. Plis, and V.I. Pronyushkin (0). Evaluating the effect of an electromechanical bond of trace elements on the properties of longwave holograms. IN: Sb 5, 147-154. (RZhRadiot, 9/77, 9Ye322)

388. Zolotarev, I.D., and M.A. Kushnir (0). Effect of random inhomogeneities in a medium and in an additive noise, on an ultrasonic hologram. IN: Sb 5, 133-137. (RZhRadiot, 9/77, 9Ye321)

F. LASER-INDUCED CHEMICAL REACTIONS

389. Abakumov, G.A., L.S. Podol'skaya, B.I. Polyakov, A.P. Simonov, V.V. Fadeyev, and N.A. Fadeyeva (0). Efficiency of two-step photoionization of aromatic and heteroaromatic molecules in solutions under the action of UV laser radiation. ZhPS, v. 27, no. 4, 1977, 707-712.

390. Adamova, Yu.A., A.N. Orayevskiy, A.V. Pankratov, A.N. Skachkov, V.M. Shabarshin, and G.V. Shmerling (1). Coincidence of threshold intensity of IR laser radiation initiated by a laser-chemical reaction and fluorescence. KhVE, no. 5, 1977, 347-349.

391. Antonov, V.S., I.N. Knyazev, V.S. Letokhov, and V.G. Movshev (72). Photoionization of molecules from ground and selectively excited states by vacuum UV CO_2 laser radiation. ZhETF, v. 73, no. 4, 1977, 1325-1339.

392. Balykin, V.I., V.S. Letokhov, V.I. Mishin, and V.A. Semchishen (72). Laser fluorescent detection of individual atoms. ZhETF P, v. 26, no. 6, 1977, 492-495.

393. Kaliteyevskaya, Ye.N., and T.K. Razumova (0). Study of the process of reversible photoisomerization in polymethine dye solutions under laser excitation. OiS, v. 43, no. 4, 1977, 671-680.

394. Karlov, N.V., B.B. Krynetskiy, and O.M. Stel'makh (1). Measurement of a cross section of photoionization of an Li atom from the 2P level. KE, no. 10, 1977, 2275-2276.

395. Karlov, N.V., and A.M. Prokhorov (1). Selective processes at the interface of two media, induced by resonant laser radiation. UFN, v. 123, no. 1, 1977, 57-82.

396. Khmelev, A.V., V.V. Apollonov, V.D. Borman, B.I. Nikolayev, A.A. Sazykin, V.I. Troyan, K.N. Firsov, and B.A. Frolov (16). Stimulation of a heterogeneous reaction of ammonia decomposition at a platinum surface by CO_2 laser radiation. KE, no. 10, 1977, 2271-2274.

397. Kostyshin, M.T., and V.I. Min'ko (6). Dependence of the activation energy of photochemical conversions in light-sensitive As_2S_3-Ag systems, on the intensity of radiation. UFZh, no. 9, 1977, 1560-1562.

398. Papernov, S.M., K. Khoffmann, and M.L. Yanson (0). Population of $Cs6^2P_j$ states during laser excitation of cesium vapor. IN: Sb 3, 98-101. (RZhF, 10/77, 10D258)

399. Papernov, S.M., G.V. Shlyapnikov, and M.L. Yanson (0). Photodissociation of vibrationally excited molecules. IN: Sb 3, 102-115. (RZhF, 10/77, 10D255)

400. Petrov, N.Kh., N.F. Chebotarev, and S.Ya. Pshezhetskiy (122). Laser method for determining the quantum yield of atoms during photodissociation of molecules. KE, no. 10, 1977, 2248-2251.

401. Sazonov, V.N., and V.Yu. Finkel'shteyn (1). Analysis of models of radiation dissociation of multiatomic molecules in a laser radiation field. ZhETF, v. 73, no. 4, 1977, 1306-1316.

402. Volkova, A.A., A.D. Zinchenko, I.V. Sanin, V.I. Tarzhanov, and B.B. Tokarev (0). Time characteristics of ignition of pentaerythrityl tetranitrate by laser radiation. FGiV, no. 5, 1977, 760-766.

G. MEASUREMENT OF LASER PARAMETERS

403. Bardyukov, A.M., M.Ya. Varshavskiy, V.S. Yershov, A.F. Kotyuk, and V.I. Kukhtevich (0). Study of the variation in the position of the plane of polarization of laser radiation in a state special standard. IN: Sb 6, 35-39. (RZhF, 10/77, 10D1518)

404. Drozhbin, Yu.A., V.S. Zelenchuk, V.L. Milovidov, O.V. Milyutin, V.S. Orlov, M.M. Rozenberg, I.A. Rychkova, B.M. Stepanov, and A.I. Churbakov (0). Integrated radiation recorder. IN: Sb 4, 24-25. (RZhF, 10/77, 10D1531)

405. Gubkin, Yu.S. (30). Methods for measuring a thermooptic constant. Deposit at VINITI, no. 2519-77, 23 June 1977, 6 p. (RZhF, 10/77, 10D1560)

406. Klyukin, L.M., B.M. Stepanov, V.A. Fabrikov, and L.N. Filippov (0). Recording space-time distribution of radiation energy of a ruby laser pulse, on magnetic tape. IN: Sb 4, 42-43. (RZhF, 10/77, 10D1536)

407. Klyukin, L.M., V.P. Kuznetsov, and L.N. Filippov (0). Energy sensitivity of a permalloy film -- glass structure during recording of 10.6 μ radiation. IN: Sb 4, 93-95. (RZhF, 10/77, 10D1535)

408. Knyupfer, A.P., A.F. Kotyuk, A.A. Chernoyarskiy, and A.I. Churbakov (0). Errors in using a state special standard to reproduce a unit of relative distribution of power density in a transverse cross-section of a c-w beam. IN: Sb 6, 11-18. (RZhF, 9/77, 9D1380)

409. Kotyuk, A.F., D.G. Levchenko, V.L. Milovidov, and N.Sh. Khaykin (0). Some problems in constructing a state special standard for a unit of spectral power density of coherent radiation in the 0.4-10.6 μ range. IN: Sb 6, 30-34. (RZhRadiot, 9/77, 9Ye218)

410. Kotyuk, A.F., A.M. Luk'yanov, S.V. Tikhomirov, N.P. Khatyrev, A.A. Chernoyarskiy, and V.A. Yakovlev (0). Measuring systems for studying the coefficient of conversion in photoelectric measuring converters. IT, no. 10, 1977, 34-36.

411. Lobzev, V.N., N.N. Antonova, and A.N. Titov (0). Characteristics of coherent optical classification of periodic signals during their nonsynchronous recording. IN: Sb 5, 91-96. (RZhRadiot, 9/77, 9Ye310)

412. Lobzov, V.N., N.N. Antonova, and A.N. Titov (0). Assuring the independence of coherent optical classification from the onset of a periodic signal readout. IN: Sb 5, 97-102. (RZhRadiot, 9/77, 9Ye309)

413. Mishchenko, N.I., S.M. Slobodyan, V.I. Bukatyy, and D.P. Chaporov (78). Television analyzer of laser radiation. PTE, no. 5, 1977, 232.

414. Solov'yev, V.S., and V.M. Smulakovskiy (0). Analyzing the errors in a method for measuring wavelength and frequency of lasers with radiation conversion. IT, no. 10, 1977, 37-38.

415. Umarov, G.Ya., As.T. Mirzayev, E.P. Bakhgat, and Ag.T. Mirzayev (0). Experimental study of the distribution of photoresponses for intensity-modulated radiation. DAN Uz, no. 2, 1977, 33-35. (RZhF, 9/77, 9D1047)

416. Vdovin, Yu.I., and Ye.V. Shishkina (0). Study of the distribution of laser radiation in a focusing region. IN: Sb 10, 73-77. (RZhRadiot, 9/77, 9Ye220)

417. Yershov, V.S., N.A. Rychkova, and A.I. Churbakov (0). Effect of a mirror on the errors in reproducing a unit in a scheme of a state special standard for a unit of relative distribution of power density in a transverse cross-section of a c-w laser beam. IN: Sb 6, 40-44. (RZhRadiot, 9/77, 9Ye219)

418. Zhuravlev, E.N., L.M. Zaks, N.G. Rambidi, and V.I. Rakhovskiy (0). International Exhibition "Metrologiya 1977": Some advances. IT, no. 9, 1977, 84-88.

H. LASER MEASUREMENT APPLICATIONS

1. Direct Measurement by Laser

419. Afanas'yev, I.I., A.A. Berezhnoy, T.S. Bushneva, and S.V. Prokof'yev (0). Growing lead magnoniobate and magnotantalate crystals. OMP, no. 10, 1977, 40-43.

420. Aleksandrov, A.F., S.Yu. Galuzo, A.T. Savichev, and I.B. Timofeyev (2). Study of the spatial distribution of the coefficient of absorption in the plasma of a high-current discharge, by a laser scanning method. Fizika plazmy, no. 5, 1977, 1022-1027.

421. Aleksandrov, Ye.B., and V.S. Zapasskiy (0). Optical recording of the EPR of a Tm^{2+} ion in fluorite-type crystals in small magnetic fields. FTT, no. 10, 1977, 3083-3091.

422. Alekseyev, E.I., Ye.N. Bazarov, V.V. Grigor'yants, V.A. Detinich, G.A. Ivanov, N.A. Koreneva, Ye.I. Sverchkov, G.I. Telegin, and Yu.K. Chamorovskiy (326). Fiber lightguide laser interferometers. KE, no. 9, 1977, 2029-2030.

423. Aleshin, V.A., and M.N. Dubrov (15). Laser interferometer with path difference up to 1 km. KE, no. 10, 1977, 2260-2262.

424. Andreyev, A.N., V.V. Arkhipov, and A.I. Kuznetsov (7). Electrodynamic drive for a Fourier spectrometer. OMP, no. 10, 1977, 55-56.

425. Anokhov, S.P., Yu.Yu. Zhupan, V.I. Kravchenko, Yu.D. Opanasyuk, and V.V. Tarabrov (5). Dynamics of the emission spectrum of a neodymium glass traveling wave sweep laser. KE, no. 9, 1977, 2049-2052.

426. Apel, P. (NS). Using laser technology for alignment and control in architectural construction. IN: Sb 1, 349-351. (RZhRadiot, 10/77, 10Ye427)

427. Belousov, P.Ya., Yu.N. Dubnishchev, and V.A. Pavlov (0). Velocimeter with a Doppler frequency optical discriminator. OiS, v. 43, no. 4, 1977, 775-779.

428. Belozerov, A.F., A.N. Berezkin, A.I. Razumovskaya, and N.M. Spornik (0). Aeroballistic studies of a gas flow by means of a holographic attachment to a shadow instrument. IN: Sb 5, 60-64. (RZhRadiot, 10/77, 10Ye458)

429. Bogdanov, S.V., D.V. Petrov, and I.B. Yakovkin (0). Experimental study of the diffraction of an optical beam propagating parallel to a surface with an elastic surface wave. OiS, v. 43, no. 4, 1977, 727-733.

430. Boytsov, V.F. (0). Integral equation of an optical ring resonator with bounded dimensions of the amplifying medium. OiS, v. 43, no. 4, 1977, 734-739.

431. Chernykh, V.T., and I.N. Zelinskiy (7). Holographic interferometer for studying three-dimensional optical inhomogeneities. OMP, no. 10, 1977, 26-28.

432. Chu Tran-ba, R. Jurgeit, and P.V. Nickless (NS). Optical parametric oscillator for linear absorption spectroscopy. IN: Sb 1, 163-169. (RZhRadiot, 10/77, 10Ye190)

433. Danileyko, M.V., N.K. Danilov, V.R. Kozubovskiy, and M.T. Shpak (0). Multimode ring laser. OiS, v. 43, no. 4, 1977, 740-746.

434. Dotsenko, A.V., and Ye.G. Lariontsev (2). Beat regime in a solid-state ring laser with nonlinear absorbers. ZhTF P, no. 17, 1977, 899-902.

435. D'yakonov, A.M., Yu.S. Kapshin, V.V. Klyubin, V.A. Noskin, and V.M. Rysakov (0). High-resolution optical spectrometer with a separate heterodyne. ZhTF P, no. 19, 1977, 1003-1006.

436. Gerhardt, H., and E. Matthias (NS). A high resolution dye laser spectrometer for measurements of isotope and isomer shifts and hyperfine splitting of radioactive isotopes. IN: Sb 1, 90-92. (RZhRadiot, 10/77, 10Ye407)

437. Godik, E.E., V.I. Dosov, O.V. Lamykin, and V.P. Sinis (15). Apparatus for studying polarization effects in photoconductivity. PTE, no. 5, 1977, 199-200.

438. Hertz, J.H., D. Leupold, and W. Radloff (NS). New directions in laser spectroscopy. Spektrum [GDR], no. 3, 1977, 14-17. (RZhF, 9/77, 9D1198)

439. High accuracy direction finding of axle tubes with laser. IN: Sb 1, 363-365. (RZhRadiot, 10/77, 10Ye426)

440. Il'yasov, R.Sh., Yu.N. Malinin, and Yu.Ye. Pol'skiy (0). Laser vibrometer with high accuracy and noise rejection. IT, no. 10, 1977, 49-51.

441. Ivanov, V.P., V.P. Klochkov, and L.F. Kozlov (0). Measuring the velocity profile in high-volume liquid flows by means of a laser Doppler velocimeter. MZhiG, no. 5, 1977, 170-173.

442. Klotyn'sh, E.E., M.Kh. Neykhart, V.R. Nesaule, and V.K. Petrov (427). Distribution of photoconductivity voltage during local illumination of a homogeneous silicon disk. IAN Lat, no. 5, 1977, 58-63.

443. Kolesov, G.V., A.F. Kotyuk, V.G. Novikov, B.M. Stepanov, and L.A. Shelkova (0). Errors in electrooptic apparatus. IT, no. 9, 1977, 19-21.

444. The LADO-1 laser Doppler velocimeter. Messen-Steuern-Regeln, no. 6, 1977, 351. (RZhRadiot, 10/77, 10Ye432)

445. Lau, A., W. Werncke, J. Klein, K. Lenz, and M. Pfeiffer (NS). Comparison of inverse Raman scattering and anti-Stokes Raman scattering within and outside an electron resonance. IN: Sb 1, 150-153. (RZhRadiot, 10/77, 10Ye442)

446. Liebmann, G., and G. Kluge (NS). Study of the graininess in photolayers in coherent light. IN: Sb 1, 375-377. (RZhRadiot, 10/77, 10Ye436)

447. Maris, Z., and V.G. Velculescu (NS). Quantitative Schlieren interferometry of nonsymmetric objects. Revue roumaine de physique, no. 1, 1977, 99-101. (RZhF, 10/77, 10D1510)

448. Men'shikh, O.F. (0). Device for diagnostics of optically active media. Author's certificate USSR, no. 521455, issued 15 October 1976. (RZhF, 9/77, 9D1431)

449. Nalimov, I.P. (0). [Sixth Scientific and Practical Conference on the] Use of Lasers in Modern Technology [Leningrad, 31 May - 3 June 1977]. TKiT, no. 10, 1977, 95-96.

450. Nedler, V.V. (0). Current status and problems of the industrial application of spectral analysis in the USSR (review). ZL, no. 9, 1977, 1200-1206.

451. Nikolayev, A.N. (0). Trends in the development of modern technology for gas analysis by means of IR absorptiometry. IT, no. 9, 1977, 71-74.

452. Poleshchuk, A.G. (0). Displaying the shape of a wave front by a shadow instrument with subtraction. Avtometriya, no. 5, 1977, 83-90.

453. Popov, A.L., V.Ye. Solodilov, and G.N. Chernyshev (0). Holographic interferometry method for problems on resonant vibrations of shells of rotation. MTT, no. 5, 1977, 125-131.

454. Potapov, O.A., B.V. Shal'nov, G.R. Mirkin, and S.V. Ryazantseva (0). Using coherent optical systems to process geologic and geophysical information. IN: Sb 5, 51-59. (RZhRadiot, 9/77, 9Ye266)

455. Seleznev, V.G., A.N. Arkhipov, and T.V. Ibragimov (0). Determining the residual voltage displaced along the length of a rod, by a holographic interferometry method. ZL, no. 9, 1977, 1131-1134.

456. Shabanov, V.F., V.P. Spiridonov, and V.L. Serebrennikov (210). Study of polymorphism in paradichlorbenzene by a Raman spectroscopy method. Kristallografiya, no. 5, 1977, 988-993.

457. Shul'ga, V.M., and N.I. Chernova (7). Optical heterodyne spectrometer with a high resolving power. OMP, no. 9, 1977, 70-71.

458. Sokolov, V.A., and E.Ye. Fradkin (0). Nonlinear Zeeman effect in a gas ring laser. OiS, v. 43, no. 3, 1977, 555-561.

459. Starik, V.D., L.A. Suslennikov, V.V. Trynin, and V.M. Fedorov (0). Wide-band stroboscopic FM demodulator for processing a signal in a laser Doppler velocimeter. Avtometriya, no. 5, 1977, 90-93.

460. Stepanov, B.I. (0). Development of theoretical spectroscopy in Belorussia. ZhPS, v. 27, no. 4, 1977, 572-579.

461. Suffczynski, M. (NS). Multiphoton spectroscopy without the Doppler effect. Postepy fizyki, no. 2, 1977, 167-184. (RZhF, 10/77, 10D331)

462. Tilcher, J., H. Schwarzer, and K.P. Schmidt (NS). Possibility of measuring small relative concentrations of elements (less than 10^{-12}) by a method of intraresonator absorption. IN: Sb 1, 170-171. (RZhRadiot, 10/77, 10Ye319)

463. Tsukkerman, S.T. (30). Instruments for automatic control of excavators by an optical beam. IVUZ Priboro, no. 10, 1977, 107-112.

464. Varikash, V.M., and A.K. Polonin (430). Joint use of dual-wave and holographic interferometers for measuring small inhomogeneous deformations. PTE, no. 5, 1977, 176-178.

465. Vasilenko, Yu.G., Yu.N. Dubnishchev, and A.N. Skurlatov (75). Optical method for measuring the velocity of media with phase inhomogeneities. ZhTF P, no. 19, 1977, 995-999.

466. Vayvod, P.A., V.V. Voronov, L.I. Ivleva, Yu.S. Kuz'minov, O.B. Makarova, and N.M. Polozkov (1). Dielectric and electrooptic properties of a $Ba_{0.54}Sr_{0.46}Nb_2O_6$ ferroelectric doped with Y, La, and Tm. FTT, no. 10, 1977, 3163-3165.

467. Volosov, V.D. (0). First All-Union Conference on Laser Optics, Leningrad, 4-8 January 1977. OiS, v. 43, no. 3, 1977, 594-595.

468. Yakobson, N.N. (436). Optically-pumped quantum magnetometer. Author's certificate USSR, no. 446012, issued 19 January 1977. (RZhRadiot, 10/77, 10Ye327)

469. Yevtikhiyev, N.N., and A.A. Pastushkov (0). Method for monitoring defects in optically transparent components. IN: Sb 5, 45-50. (RZhRadiot, 10/77, 10Ye420)

470. Zborovskiy, V.A., and A.G. Novikov (0). Experimental study of nonlinear polarizational interaction of opposed waves in a ring laser. KE, no. 9, 1977, 2031-2034.

471. Zhdanov, V.G., and V.K. Malinovskiy (75). Photoinduced birefringence and dichroism in As_2S_3 films. ZhTF P, no. 18, 1977, 943-946.

2. Laser-Excited Optical Effects

472. Achilov, M.F., M.A. Kasymdzhanov, D.P. Krindach, O.V. Trynilina, and P.K. Khabibullayev (2). Nondirectional luminescence of transparent dielectrics under laser action. KE, no. 9, 1977, 1992-1994.

473. Adkhamov, A.A., I.M. Aref'yev, and B.S. Umarov (0). Brillouin scattering spectra in an isotropic phase of an MBBA liquid crystal in a transition region. DAN Tadzh, no. 2, 1977, 22-25. (RZhF, 9/77, 9D1074)

474. Aleksandrov, I.V., V.I. Besedin, Ya.S. Bobovich, and P.P. Dikun (0). Possibilities of identifying and studying the structure of N-nitrosamines by their Raman spectra. ZhPS, v. 27, no. 3, 1977, 514-519.

475. Alferov, Zh.I., V.M. Andreyev, D.Z. Garbuzov, V.R. Larionov, V.D. Rumyantsev, and V.B. Khalfin (4). Heteroelement with intermediate conversion of radiation. FTP, no. 9, 1977, 1765-1770.

476. Anpilogov, O.N., and N.A. Denisov (106). Irradiance of an image during illumination by a laser beam. IN: Tr 8, 22-23. (RZhRadiot, 9/77, 9Ye9)

477. Ashkinadze, B.M., and I.M. Fishman (4). Onset and decay of an incipient liquid phase of excitons in germanium under conditions of inhomogeneous deformation. ZhETF P, v. 26, no. 6, 1977, 484-487.

478. Avayeva, I.G., F.V. Lisovskiy, Ye.G. Mansvetova, and V.I. Shapovalov (15). Behavior of a compromise interphase boundary in ferrite-garnet epitaxial films with point magnetic compensation. FTT, no. 9, 1977, 1577-1586.

479. Azizbekyan, G.V., N.N. Badalyan, N.I. Koroteyev, K.A. Nersesyan, M.A. Khurshudyan, and Yu.S. Chilingaryan (37,2). Observation of the overtones of vibrational-rotational molecular transitions using coherent active spectroscopy. KE, no. 9, 1977, 1911-1916.

480. Baklanov, Ye.V., and V.P. Chebotayev (10). Two-photon absorption of ultrashort pulses in gas. KE, no. 10, 1977, 2189-2195.

481. Baltrameyunas, R., Yu. Vaytkus, D. Veletskas, I.I. Tychina, and I.Yu. Tkachuk (49,106). Photoconductivity of $CdSiP_2$ single crystals under laser excitation. Litovskiy fizicheskiy sbornik, no. 5, 1977, 621-625.

482. Bergmann, J., K. Kneipp, and H.E. Ponath (NS). Raman-induced Kerr effect in $LiIO_3$ single crystals. Physica status solidi (b), v. 80, no. 1, 1977, K55-K58. (RZhF, 10/77, 10D1118)

483. Borisevich, N.A., A.V. Dorokhin, and A.A. Kotov (0). Luminescence of benzophenone vapor under laser excitation. OiS, v. 43, no. 4, 1977, 655-659.

484. Bruyev, A.S., and N.I. Nikolayev (122). Active diffusion in laser-stimulated polymer membranes. ZhTF P, no. 17, 1977, 855-858.

485. Bugrim, Ye.D., S.N. Makrenko, and I.L. Tsikora (0). Temperature dependence of the efficiency of deactivation of the $B^3II_{0_u^+}$ state of iodine and bromine molecules excited by an He-Ne laser. OiS, v. 43, no. 3, 1977, 424-430.

486. Dorozhkin, L.M., V.A. Kizel', Yu.S. Kuz'minov, V.D. Shigorin, and G.P. Shipulo (1). Variance of quadratic susceptibility of barium-strontium niobate crystals and their structure. KE, no. 10, 1977, 2266-2268.

487. Dorozhkin, L.M., V.A. Kizel', V.A. Chikov, V.D. Shigorin, and G.P. Shipulo (1). Measuring the indices of refraction in single crystals by a method of equal deflections. KSpF, no. 3, 1977, 8-11. (RZhF, 9/77, 9D1101)

488. Galanov, Ye.K., and G.N. Potikhonov (0). Magnetooptic dichroism in free carriers in semiconductors. FTP, no. 10, 1977, 1991-1994.

489. Gerasimov, V.P. (0). Polarized Raman spectra of various complex molecular crystals at low frequencies. OiS, v. 43, no. 4, 1977, 705-710.

490. Gladkov, L.L., A.T. Gradyushko, N.M. Ksenofontova, K.N. Solov'yev, A.S. Starukhin, and A.M. Shul'ga (0). Interpreting the resonant Raman spectra of octamethylporphine and octamethylporphine-d_4. ZhPS, v. 27, no. 3, 1977, 506-513.

491. Gorelik, V.S., O.P. Maksimov, and M.M. Sushinskiy (1). Study of many-particle Raman processes in crystals by means of a copper vapor laser. KSpF, no. 4, 1977, 19-23. (RZhF, 10/77, 10D645)

492. Gurzan, M.I., A.P. Buturlakin, V.S. Gerasimenko, N.F. Korda, and V.Yu. Slivka (136). Optical properties of $Sn_2P_2S_6$ crystals. FTT, no. 10, 1977, 3068-3070.

493. Il'in, M.A., N.V. Ovsyannikova, and Ye.V. Sisakyan (7). Methods for measuring low values of the index of absorption of GaAs single crystals. OMP, no. 10, 1977, 57-59.

494. Khatyrev, N.P., and A.A. Chernoyarskiy (0). Evaluating a photoelectric measuring converter by means of a laser with a spiked radiation structure. IN: Sb 6, 25-29. (RZhF, 10/77, 10D1327)

495. Kleinschmidt, J., and M. Schubert (NS). Effect of singlet-triplet transitions on the measurement of a two-photon absorption cross-section. Experimentalle Technik der Physik, no. 1, 1977, 9-17. (RZhF, 9/77, 9D1169)

496. Kondilenko, I.I., P.A. Korotkov, V.A. Klimenko, and O.P. Dem'yanenko (0). Transverse Raman scattering cross-section of the ν_1 vibration of a water molecule in the liquid and gas state. OiS, v. 43, no. 4, 1977, 645-649.

497. Krasinski, J., and S. Dinev (NS). The change in statistical properties of a laser beam induced by two-photon absorption. IN: Sb 1, 272-274. (RZhRadiot, 10/77, 10Ye121)

498. Mavrin, B.N., Kh.Ye. Sterin, N.M. Gasanly, Z.D. Khalafov, E.Yu. Salayev, K.R. Allakhverdiyev, and R.M. Sardarly (72). Optical phonons in $TlGaS_2$, β-$TlInS_2$ and $TlGaSe_2$ layered crystals. FTT, no. 10, 1977, 2960-2963.

499. Mirlin, D.N., and I.I. Reshina (4). Anisotropy of polarization of hot photoluminescence in GaAs crystals. ZhETF, v. 73, no. 3, 1977, 859-864.

500. Mityagin, Yu.A., V.G. Plotnichenko, L.K. Vodop'yanov, and L.D. Budennaya (118). Longwave optical phonons in a system of $CdTe_{1-x}S_x$ solid solutions. FTT, no. 10, 1977, 3099-3103.

501. Naboykin, Yu.V., L.A. Ogurtsova, A.P. Podgornyy, and F.S. Pokrovskaya (0). Determining the relaxation time of vibrational levels of ground electron states in impurity molecular crystals. ZhPS, v. 27, no. 4, 1977, 675-680.

502. Plotnichenko, V.G., L.V. Golubev, and L.K. Vodop'yanov (118). Raman spectra in $CdTe_{1-x}Se_x$ crystals. FTT, no. 9, 1977, 1703-1705.

503. Plotnichenko, V.G., Yu.A. Mityagin, and L.K. Vodop'yanov (118). Study of fundamental oscillations in CdSe by Raman scattering and IR reflection methods. FTT, no. 9, 1977, 1706-1710.

504. Simashkevich, A.V., V.V. Chubarov, V.N. Chumash, and D.A. Sherban (0). Photo emf sign change in ZnSe-CdTe heterojunctions during their excitation by ultrashort laser pulses. IN: Sb 14, 142-148. (RZhRadiot, 9/77, 9Ye77)

505. Tabarin, V.A., and A.V. Shtayn (398). Diffraction of light by a band domain structure of iron yttrium ferrite garnet. IVUZ Fiz, no. 10, 1977, 141-143.

506. Tagirov, V.I., M.D. Khomutova, M.A. Sobeikh, and V.M. Salmanov (86). Photoconductivity of GaSe at high levels of optical excitation. FTP, no. 9, 1977, 1839-1840.

507. Trepakov, V.A., A.V. Babinskiy, N.N. Kraynik, G.A. Smolenskiy, and A.N. Samukhin (4). Mobility of charge carriers and photoluminescence in lead magnoniobate in the region of a ferroelectric phase transition. ZhETF P, v. 26, no. 6, 1977, 473-476.

508. Valiyev, K.A., V.G. Mokerov, V.V. Saraykin, and A.G. Petrova (0). Scattering of light at a semiconductor-metal phase transition in vanadium dioxide. FTT, no. 9, 1977, 1537-1544.

509. Vaytkus, Yu., and V. Grivitskas (49). Effect of the rate of surface recombination and diffusion of charge carriers on the photoconductivity of silicon during excitation by short laser pulses. Litovskiy fizicheskiy sbornik, no. 5, 1977, 613-620.

510. Zhotikov, V.G., and N.M. Kreynes (65). Light scattering in weak ferromagnetic $CoCO_3$ during excitation of a spin system by high SHF power. ZhETF P, v. 26, no. 6, 1977, 496-500.

J. BEAM-TARGET INTERACTION

1. Metal Targets

511. Bezotosnyy, I.Yu., V.M. Yepikhin, and I.N. Nikolayev (16). Superparamagnetism of finely dispersed iron. FTT, no. 10, 1977, 3113-3116.

512. Denus, S., Z. Dzwigalski, J. Farny, S. Kaliski, M. Kielesinski, J. Kostecki, J. Kubicki, S. Nagraba, J. Wolowski, and E. Woryna (NS). Interaction of high-power CO_2 laser radiation with a dispersing aluminum and polyethylene plasma. BWAT, no. 4, 1977, 35-45. (RZhRadiot, 9/77, 9Ye248)

513. Karpukhin, V.T., and Yu.B. Konev (74). Evaluating the parameters of a technological laser for ferrous metallurgy. TVT, no. 5, 1977, 1122-1124.

514. Naumenko, N.F. (434). Study of the parameters of a hardened surface as related to the energy density of laser radiation. IAN B, no. 4, 1977, 34-36.

515. Rykalin, N.N., and A.A. Uglov (0). Effect of the ambient atmosphere on processing of materials by laser radiation. FiKhOM, no. 5, 1977, 7-12.

516. Yemets, A.K., and V.G. Kononenko (0). Pulsed laser destruction of metal foil with thin-film coatings. FiKhOM, no. 5, 1977, 100-110.

2. Dielectric Targets

517. Endert, H., A. Hattenbach, and W. Melle (NS). Laser damage phenomena in connection with surface and internal defects of KDP transparent dielectrics. IN: Sb 1, 357-359. (RZhRadiot, 10/77, 10Ye342)

518. Gagarin, A.P., L.B. Glebov, and V.G. Dokuchayev (0). Darkening of silicate glass by erosive laser plasma radiation. KE, no. 9, 1977, 1996-1999.

519. Gagarin, A.P., Yu.S. Ganeshko, V.G. Dokuchayev, and S.V. Maslenikov (0). Dynamics in the development of optical breakdown of glass. ZhTF P, no. 18, 1977, 955-961.

520. Golubev, V.S., L.I. Kiselevskiy, and V.N. Snopko (3). Plasma formation while passing CO_2 laser radiation through transparent dielectrics. KE, no. 10, 1977, 2120-2124.

521. Poyurovskaya, I.Ye. (240). Structure of an absorption wave during optical breakdown of solid transparent dielectrics. FTT, no. 10, 1977, 2876-2878.

522. Raykhman, B.A., and V.N. Smirnov (0). Size dependence of the threshold of optical breakdown near the surface of a solid under the action of 10.6 μ pulses. ZhTF, no. 9, 1977, 1988-1991.

523. Zverev, G.M., S.A. Kolyadin, Ye.A. Levchuk, and L.A. Skvortsov (0). The effect of the surface layer on the resistance of lithium niobate to laser radiation. KE, no. 9, 1977, 1882-1889.

3. Semiconductor Targets

524. Borshch, A.A., M.S. Brodin, and N.N. Krupa (5). The effect of self-focusing on laser damage to $A^{II}B^{VI}$ group semiconductors. KE, no. 9, 1977, 1959-1963.

4. Miscellaneous Studies

525. Apostol, I.D., I.N. Mihailescu, L.C. Nistor, and V.S. Teodorescu (NS). Electron microscopy study of the damages produced in KCl by TEA CO_2 laser irradiation. Revue roumaine de physique, no. 2, 1977, 211-212. (RZhF, 10/77, 10D1251)

526. Bergmann, H. (NS). Laser technology [in materials processing]. Radio-Fernsehen-Electronik, v. 26, no. 10, 1977, 327-330. (RZhRadiot, 10/77, 10Ye412)

527. Bespalov, O.G., N.V. Karlov, B.B. Krynetskiy, O.A. Kushlyanskiy, V.A. Mishin, and A.I. Nastyukha (1). Population distribution according to the ground therm levels in neutral gadolinium vapor obtained by cathode sputtering. ZhTF P, no. 19, 1977, 980-982.

528. Boschnakow, I., and D. Schiefelbein (NS). Device for laser cutting and welding. Patent GDR, no. 118555, issued 12 March 1976. (RZhRadiot, 10/77, 10Ye417)

529. Gotra, Z.Yu., B.A. Goldovanskiy, A.P. Kuz'kin, O.N. Selyutin, and B.V. Tsypin (437). Study of the effect of laser adjustment on the electrophysical properties of thin-film resistors based on an RS-3710 alloy. IN: Tr 9, 65-69. (RZhRadiot, 10/77, 10Ye421)

530. Herziger, G. (NS). Material processing with laser radiation. IN: Sb 1, 21-22. (RZhRadiot, 10/77, 10Ye418)

531. Kachurin, G.A., and Ye.V. Nidayev (10). Efficiency of annealing implanted layers by millisecond laser pulses. FTP, no. 10, 1977, 2012-2014.

532. Maldutis, E.K., Yu.I. Reksnis, and S.V. Sakalauskas (0). Kinetics of a laser-induced temperature field with time-varying intensity. Inzhenerno-fizicheskiy zhurnal, v. 32, no. 6, 1977, 1098-1104. (RZhRadiot, 10/77, 10Ye359)

533. Pollack, D., and G. Wiedemann (NS). Some aspects of using lasers in the textile, clothing and chemical fiber industries. IN: Sb 1, 295-296. (RZhRadiot, 10/77, 10Ye425)

534. Shorshorov, M.Kh., V.V. Kudinov, and Yu.A. Kharlamov (0). Current status and prospects for developing sputtering deposition of coatings. FiKhOM, no. 5, 1977, 7-12.

535. Volkenandt, H., and G. Zscharpe (NS). Materials processing by laser. Hypotheses and possibilities of application. Die Technik, no. 6, 1977, 338-339. (RZhRadiot, 10/77, 10Ye411)

536. Zadorozhnyy, V.I., A.B. Katrich, Yu.V. Koltok, V.M. Kuz'michev, Yu.M. Latynin, V.M. Murugov, and V.A. Khrustalev (34). Onset of electromotive force during irradiation of ferromagnetic materials by pulsed laser radiation. ZhTF, no. 9, 1977, 1995-1996.

K. PLASMA GENERATION AND DIAGNOSTICS

537. Aglitskiy, Ye.V., A.N. Zherikhin, P.G. Kryukov, and S.V. Chekalin (72). Characteristics of x-ray spectra of a plasma produced by a subnanosecond laser pulse. ZhETF, v. 73, no. 4, 1977, 1344-1351.

538. Aleksandrov, A.F., S.Yu. Galuzo, A.T. Savichev, and I.B. Timofeyev (2). Study of the density distribution of electrons in the plasma of a high-current discharge in air. Fizika plazmy, no. 5, 1977, 1007-1010.

539. Aleksandrov, G.N., V.L. Ivanov, G.D. Kadzov, V.A. Parfenov, L.N. Pakhomov, V.Yu. Petrun'kin, V.A. Podlevskiy, and Yu.G. Seleznev (29). Study on the effect of a highly ionized channel produced by a high-power laser, on the development of a discharge in a long air gap. ZhTF, no. 10, 1977, 2122-2124.

540. Andryukhina, E.D. (0). Session of the Science Council on the problem, "Plasma Physics," Zvenigorod, 13-19 April 1977. Fizika plazmy, no. 5, 1977, 1175-1177.

541. Boyko, V.A., S.A. Pikuz, and A.Ya. Fayenov (1). Determining the electron density of a laser plasma by the intensities of resonance line satellites of hydrogen-like ions. KSpF, no. 4, 1977, 38-43. (RZhRadiot, 10/77, 10Ye354)

542. Burakov, V.S., and A.A. Stavrov (3). Method for determing the parameters of a plasma by its absorptive power. Fizika plazmy, no. 5, 1977, 1135-1139.

543. Bychenkov, V.Yu., V.P. Silin, and V.T. Tikhonchuk (1). Parametric absorption of laser radiation in a nonisothermic plasma. ZhETF P, v. 26, no. 4, 1977, 309-312.

544. Bychenkov, V.Yu., Yu.A. Zakharenkov, O.N. Krokhin, A.A. Rupasov, V.P. Silin, G.V. Sklizkov, A.N. Starodub, V.T. Tikhonchuk, and A.S. Shikanov (1). Ultrahigh-speed diagnostics of the parameters of a laser plasma corona. ZhETF P, v. 26, no. 6, 1977, 500-505.

545. Bykovskiy, Yu.A., S.M. Sil'nov, B.Yu. Sharkov, G.A. Sheroziya, and S.M. Shuvalov (16). Laser plasma of two-component mixtures. Fizika plazmy, no. 5, 1977, 1153-1156.

546. Dymshits, Yu.I. (0). Electron emission from a plasma flare. Determining the "emission" electron temperature. TVT, no. 5, 1977, 941-948.

547. Gamaliy, Ye.G., I.D. Mash, and V.B. Rozanov (1). Scattering of fast electrons in a dense laser plasma. KSpF, no. 3, 1977, 12-16. (RZhF, 10/77, 10G13)

548. Gaponov, S.V., B.M. Luskin, B.A. Nesterov, and N.N. Salashchenko (297). Morphological characteristics and structure of films condensed from a laser plasma. FTT, no. 10, 1977, 2964-2967.

549. Gudilin, I.A., V.P. Yevseyenko, V.Ye. Mitsuk, and V.A. Chernikov (2). Study of the absorption of laser radiation in the deionization stage of an optical spark. Fizika plazmy, no. 5, 1977, 1043-1049.

550. Nemtsev, I.Z., and B.F. Mul'chenko (17). Fast ionization wave in xenon, sustained by a laser beam. Fizika plazmy, no. 5, 1977, 1167-1169.

551. Prokhorov, A.M., V.N. Ageyev, A.I. Barchukov, F.V. Bunkin, and V.I. Konov (0). Progress in research on the problem of a laser air-jet engine. IN: Sb 1, 23-24. (RZhRadiot, 10/77, 10Ye373)

552. Pyatnitskiy, L.N., V.S. Zhivopistsev, and V.V. Korobkin (74). Apparatus with an electrooptic converter for diagnosing a low-temperature plasma by a scattering method. PTE, no. 5, 1977, 160-162.

553. Ragozin, Ye.N. (1). Determining the electron density profile in a laser plasma by Stark broadening of spectral lines in the far VUV spectral region. KE, no. 10, 1977, 2262-2265.

554. Shevel'ko, A.P. (1). Wide-aperture x-ray spectrograph with vertical focusing for studying a laser plasma. KE, no. 9, 1977, 2013-2015.

555. Sitenko, A.G. (0). Third International (Kiev) Conference on Plasma Theory, held in Trieste, 5-9 April 1977. Fizika plazmy, no. 5, 1977, 1170-1175.

556. Zakharenkov, Yu.A., A.A. Kologrivov, G.V. Sklizkov, and A.S. Shikanov (1). Optical diagnostics of a dense nonstationary plasma. Fizicheskiy institut AN SSSR. Kvantovaya radiofizika. Preprint, no. 74, 1977, 16 p. (RZhF, 10/77, 10G322)

III. MONOGRAPHS, BOOKS, CONFERENCE PROCEEDINGS

557. Danilychev, V.A., O.M. Kerimov, and I.B. Kovsh (0). Molekulyarnyye gazovyye lazery vysokogo davleniya (High-power molecular gas lasers). VINITI. Itogi nauki i tekhniki. Seriya Radiotekhnika, no. 12, 1977, 255 p. (KL, 37/77, 31611)

558. Dovgiy, Ya.O. (0). Opticheskiye kvantovyye generatory (Lasers). Kiyev, Vyshcha shkola, 1977, 230 p. (KL, 42/77, 35543)

559. Kryzhanovskiy, I.I., ed. (30). Opticheskoye priborostroyeniye (Optical instrument manufacture). Leningradskiy institut tochnoy mekhaniki i optiki. Trudy, no. 88, 1977, 93 p. (RZhF, 10/77, 10D1488)

560. Laser und ihre Anwendungen. 3. Internationale Tagung, 28.3-1.4 1977, Dresden (Lasers and their application. Third International Conference, Dresden, 28 March - 1 April 1977). Section 1, no date of publication, 519 p. (RZhRadiot, 10/77, 10Ye14)

561. Metody eksperimental'nykh issledovaniy atmosfery (Methods for experimental studies of the atmosphere). Tsentral'naya aerologicheskaya observatoriya. Trudy, no. 130, 1977, 96 p.

562. Primeneniye tonkikh plenok dlya registratsii elektromagnitnogo izlucheniya v shirokom diapazone spektra (Using thin films to record electromagnetic radiation in a wide spectral range). Moskva, Atomizdat, 1977, 115 p. (RZhF, 10/77, 10D1570)

563. Stepanov, B.I. (O). Lazery segodnya (Lasers today). Minsk, Vysheyshaya shkola, 1977, 128 p.

564. Stroganov, V.I. (O). Nonlineynaya metallooptika (Nonlinear metal optics). Novosibirsk, Nauka, 1977, 96 p. (RZhF, 9/77, 9D1132)

565. IX Vsesoyuznaya akusticheskaya konferentsiya, Moskva, 1977. Sektsiya Ch. Optoakustika. Doklady (Ninth All-Union Acoustic Conference, Moscow, 1977. Section Ch. Optoacoustics. Reports). Moskva, 1977, 56 p. (RZhF, 10/77, 10Zh764)

566. IV Vsesoyuznyy simpozium po rasprostraneniyu lazernogo izlucheniya v atmosfere. Pogloshcheniye i rasseyaniye lazernogo izlucheniya gazami i aerozolyami atmosfery. Tezisy dokladov (Fourth All-Union Symposium on the Propagation of Laser Radiation in the Atmosphere. Absorption and scattering of laser radiation by atmospheric gases and aerosols. Summaries of the reports). Tomsk, 1977, 209 p. (RZhRadiot, 10/77, 10Ye13)

IV. SOURCE ABBREVIATIONS

	(CIRC Codens)	
BWAT	(BWATA)	Biuletyn Wojskowej akademii technicznej J. Dabrowskiego
DAN SSSR	(DANKA)	Akademiya nauk SSSR. Doklady
DAN Tadzh	(DANTA)	Akademiya nauk Tadzhikskoy SSR. Doklady
DAN Uz	(DANUA)	Akademiya nauk Uzbekskoy SSR. Doklady
DBAN	(CRABA)	Bulgarska akademiya na naukite. Doklady
FGiV	(FGVZA)	Fizika goreniya i vzryva
FiKhOM	(FKOMA)	Fizika i khimiya obrabotka materialov
FTP	(FTPPA)	Fizika i tekhnika poluprovodnikov
FTT	(FTVTA)	fizika tverdogo tela
IAN B	(VABFA)	Akademiya nauk Beloruskoy SSR. Izvestiya. Seriya fiziko-tekhnicheskikh nauk
IAN Kirg	(INKSA)	Akademiya nauk Kirgizskoy SSR. Izvestiya
IAN Lat	(LZFTA)	Akademiya nauk Latviyskoy SSR. Izvestiya. Seriya fizicheskikh i tekhnicheskikh nauk
IT	(IZTEA)	Izmeritel'naya tekhnika
IVUZ Fiz	(IVUFA)	Izvestiya vysshikh uchebnykh zavedeniy. Fizika
IVUZ Priboro	(IVUBA)	Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye
IVUZ Radioelektr	(IVUZB)	Izvestiya vysshikh uchebnykh zavedeniy. Radioelektronika
KE	(KVEKA)	Kvantovaya elektronika
KhVE	(KHVKA)	Khimiya vysokikh energiy
KL	(KNLTA)	Knizhnaya letopis'
KSpF	(KRSFA)	Kratkiye soobshcheniya po fizike
MTT	(IZMTB)	Akademiya nauk SSSR. Izvestiya. Mekhanika tverdogo tela
MZhiG	(IMZGA)	Akademiya nauk SSSR. Izvestiya. Mekhanika zhidkosti i gaza
OiS	(OPSPA)	Optika i spektroskopiya

OMP	(OPMPA)	Optiko-mekhanicheskaya promyshlennost'
Otkr izobr	(OIPOB)	Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki
PTE	(PRTEA)	Pribory i tekhnika eksperimenta
RiE	(RAELA)	Radiotekhnika i elektronika
RZhF	(RZFZA)	Referativnyy zhurnal. Fizika
RZhGeofiz	(RZGFA)	Referativnyy zhurnal. Geofizika
RZhRadiot	(RZRAB)	Referativnyy zhurnal. Radiotekhnika
Sb1		Internationale Tagung. 3rd. Dresden, 28 March - 1 April 1977. Laser und ihre Anwendungen. Section 1, no date of publication.
Sb2		Sbornik. Gertsenovskiye chteniya. 30th. Fizicheskaya elektronika. Leningrad, 1977.
Sb3		Sensibilizirovannaya fluorestsensiya smesey parov metalla, no. 6, Riga, 1977.
Sb4		Primeneniye tonkikh plenok dlya registratsii elektromagnitogo izlucheniya v shirokom diapazone spektra. Moskva, Atomizdat, 1977.
Sb5		Problemy golografii, no. 7, 1976.
Sb6		Metrologicheskoye obespecheniye rabot v oblasti energii fotometrii. Moskva, 1976.
Sb7		Mezhvuzovskiy sbornik. Leningradskiy elektrotekhnicheskiy institut, no. 109, 1977.
Sb8		Vsesoyuznaya akusticheskaya konferentsiya. 9th. 1977. Section Ch. Moskva, 1977.
Sb9		Elementy radiopriyemnikh ustroystv. Taganrog, 1977.
Sb10		Problemy i perspektivy razvitiya televizionnogo kinematografa. Moskva, 1977.
Sb11		Vsesoyuznyy simpozium po rasprostraneniyu lazernogo izlucheniya v atmosfere. 4th. Pogloshcheniye i rasseyaniye lazernogo izlucheniya gazami i aerozolyami atmosfery. Tezisy dokladov. Tomsk, 1977.
Sb12		Radiofizicheskiye issledovaniya atmosfery. Leningrad, Gidrometeoizdat, 1977.
Sb13		Rasseyaniye i refraktsiya opticheskikh voln v atmosfery. Tomsk, 1976.
Sb14		Kristallicheskiye i stekloobraznyye poluprovodniki. Kishinev, Shtiintsa, 1977.

TKiT	(TKTEA)	Tekhnika kino i televideniya
Tr1		Azerbaydzhanskiy universitet. Uchenyye zapiski. Seriya fiziko-matematicheskiye nauki, no. 6, 1976.
Tr2		Institut eksperimental'noy meteorologii. Trudy, no. 7(75), 1977.
Tr3		Tsentral'naya aerologicheskaya observatoriya. Trudy, no. 130, 1977.
Tr4		Glavnaya geofizicheskaya observatoriya. Trudy, no. 395, 1977.
Tr5		Glavnaya geofizicheskaya observatoriya. Trudy, no. 377, 1977.
Tr6		Glavnaya geofizicheskaya observatoriya. Trudy, no. 393, 1977.
Tr7		NII metrologii vysshikh uchebnykh zavedeniy. Trudy, no. 13, 1977.
Tr8		Kiyevskiy politekhnicheskiy institut. Vestnik. Seriya priborostroyeniye, no. 7, 1977.
Tr9		VNI tekhnologicheskiy institut priborostroyeniya. Sbornik trudov, no. 2, 1976.
TVT	(TVYTA)	Teplofizika vysokikh temperatur
UFN	(UFNAA)	Uspekhi fizicheskikh nauk
UFZh	(UFIZA)	Ukrainskiy fizicheskiy zhurnal
ZhETF	(ZEIFA)	Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhETF P	(ZFPRA)	Pis'ma v Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhNiPFiK	(ZNPFA)	Zhurnal nauchnoy i prikladnoy fotografii i kinematografii
ZhPMTF	(ZPMFA)	Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki
ZhPS	(ZPSBA)	Zhurnal prikladnoy spektroskopii
ZhTF	(ZTEFA)	Zhurnal tekhnicheskoy fiziki
ZhTF P	(PZTFD)	Pis'ma v Zhurnal tekhnicheskoy fiziki
ZL	(ZVDLA)	Zavodskaya laboratoriya

V. AUTHOR AFFILIATIONS

NS. Non-Soviet
0. Affiliation not given
1. Physics Institute im Lebedev, AN SSSR, Moscow (Fizicheskiy institut im Lebedeva AN SSSR).
2. Moscow State University (Moskovskiy gosudarstvennyy universitet).
3. Institute of Physics, AN BSSR, Minsk (Institut fiziki AN BSSR).
4. Physicotechnical Institute im Ioffe, Leningrad (Fiziko-tekhnicheskiy institut im Ioffe).
5. Institute of Physics, An UkrSSR, Kiev (Institut fiziki AN UkrSSR).
6. Institute of Semiconductors, AN UkrSSR, Kiev (Institut poluprovodnikov AN UkrSSR).
7. State Optical Institute im Vavilov, Leningrad (Gosudarstvennyy opticheskiy institut im Vavilova).
10. Institute of Semiconductor Physics of the Siberian Branch, AN SSSR, Novosibirsk (Institut fiziki poluprovodnikov SOAN).
12. Leningrad State University (Leningradskiy gos universitet).
14. University of Friendship Among Nations im Lumumba, Moscow (Universitet druzhby narodov im Lumumby).
15. Institute of Radio Engineering and Electronics, AN SSSR, Moscow (Instit-t radiotekhniki i elektroniki AN SSSR).
16. Moscow Engineering Physics Institute (Moskovskiy inzhenerno-fizicheskiy institut).
17. Institute of Mechanical Problems, AN SSSR, Moscow (Institut problem mekhaniki AN SSSR).
19. Moscow Power Engineering Institute (Moskovskiy energeticheskiy institut).
21. Acoustics Institute, AN SSSR, Moscow (Akusticheskiy institut AN SSSR).
23. Institute of Atomic Energy im Kurchatov, Moscow (Institut atomnoy energii im Kurchatova).
29. Leningrad Polytechnic Institute (Leningradskiy politekhnicheskiy institut).
30. Leningrad Institute of Precision Mechanics and Optics (Leningradskiy institut tochnoy mekhaniki i optiki).
31. Institute of Semiconductors, AN SSSR, Leningrad (Institut poluprovodnikov AN SSSR).
34. Khar'kov State University (Khar'kovskiy gos universitet).
35. Khar'kov Institute of Radioelectronics (Khar'kovskiy institut radioelektroniki).
37. Yerevan State University (Yerevanskiy gos universitet).
49. Vilnius State University (Vil'nyusskiy gos universitet).
50. Institute of Semiconductor Physics, AN LitSSR, Vilnius (Institut fiziki poluprovodnikov AN LitSSR).
51. Kiev State University (Kiyevskiy gos universitet).
65. Institute of Problems of Physics, AN SSSR (Institut fizicheskikh problem AN SSSR).
67. Institute of Physics of Chemistry, AN SSSR (Institut khimicheskoy fiziki AN SSSR).
71. Institute of Applied Mathematics, AN SSSR (Institut prikladnoy matematiki AN SSSR).
72. Institute of Spectroscopy, AN SSSR (Institut spektroskopii AN SSSR).
74. Institute of High Temperatures, AN SSSR (Institut vysokikh temperatur AN SSSR).
75. Institute of Automation and Electronic Measurements, Siberian Branch AN SSSR (Institut avtomatiki i elektrometrii SOAN).
78. Institute of Atmospheric Optics, Siberian Branch AN SSSR (Institut optiki atmosfery SOAN).

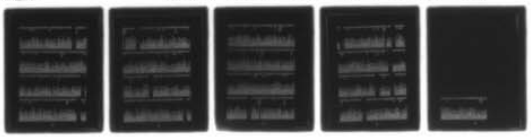
84. Institute of Radiophysics and Electronics, AN UkrSSR (Institut radiofiziki i elektroniki AN UkrSSR).
86. Azerbaydzhan State University (Azerbaydzhanskiy gos universitet).
87. Belorussian State University (Belorusskiy gos universitet).
90. Electrotechnical Institute of Communications (Elektrotekhnicheskiy institut svyazi).
92. Physicochemical Institute im Karpov (Fiziko-khimicheskiy institut im Karpova).
98. Institute of Nuclear Physics at Moscow State University (Institut yadernoy fiziki pri Moskovskom gos universitete).
106. Kiev Polytechnic Institute (Kiyevskiy politekhnicheskiy institut).
118. Moscow Physicotechnical Institute (Moskovskiy fiziko-tekhnicheskiy institut).
122. Scientific Research Institute of Physicochemistry im Karpov (NI fiziko-khimicheskiy institut im Karpov)
134. Central Aerological Observatory (Tsentral'naya aerologicheskaya observatoriya).
136. Uzhgorod State University (Uzhgorodskiy gos universitet).
141. All Union Scientific Research Institute of Optophysical Measurements (VNII optiko-fizicheskikh izmereniy).
148. Institute of Terrestrial Magnetism, the Ionosphere and Radiowave Propagation, AN SSSR (Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln AN SSSR, IZMIRAN).
161. Moscow Institute of Radio Engineering, Electronics and Automation (Moskovskiy institut radiotekhnika, elektroniki i avtomatiki).
163. All Union Scientific Research Institute of Metrology im Mendeleyev (VNII metrologii im Mendeleyeva).
180. Institute of Heat and Mass Exchange, AN BSSR (Institut teplo- i massoobmena AN BSSR).
207. Main Geophysical Observatory (Glavnaya geofizicheskaya observatoriya).
210. Institute of Physics, Siberian Branch AN SSSR (Institut fiziki SOAN).
220. Institute of Experimental Meterorology (Institut eksperimental'noy meteorologii).
227. Tashkent State University (Tashkentskiy gos universitet).
240. Odessa State University (Odesskiy gos universitet).
285. Institute of Problems of Control (Institut problem upravleniya).
297. Institute of Chemistry, AN SSSR, Gor'kiy (Institut khimii AN SSSR).
321. Mogilev Branch of the Institute of Physics, AN BSSR (Mogilevskiy filial Instituta fiziki AN BSSR).
326. Institute of Radioelectronics, AN SSSR (Institut radioelektroniki AN SSSR).
376. Kalinin State University (Kalininskiy GU).
396. "Optika" Special Design Bureau for Scientific Instrument Manufacture, Siberian Branch, AN SSSR (Spetsial'noye konstruktorskoye byuro nauchnogo priborostroyeniya "Optika" SOAN).
398. Tyumen' State University (Tyumenskiy GU).
414. Institute of Technical Cybernetics AN BSSR (Institut tekhnicheskoy kibernetiki AN BSSR).
427. Physics Power Institute, AN LatSSR (Fiziko-energeticheskiy institut AN LatSSR).
430. Minsk Radio Engineering Institute (Minskiy radiotekhnicheskiy institut).
434. Mogilev Branch of the Physicotechnical Institute, AN BSSR (Mogilevskiy filial Fiziko-tekhnicheskogo instituta AN BSSR).
435. Simferopol State University (Simferopol'skiy GU).
436. Special Design Bureau of the Ministry of Geology, USSR (Osoboye konstruktorskoye byuro Ministerstva geologii SSSR).
437. All-Union Technological Scientific Research Institute of Instrument Manufacture (VNI tekhnologicheskiy institut priborostroyeniya).

VI. AUTHOR INDEX

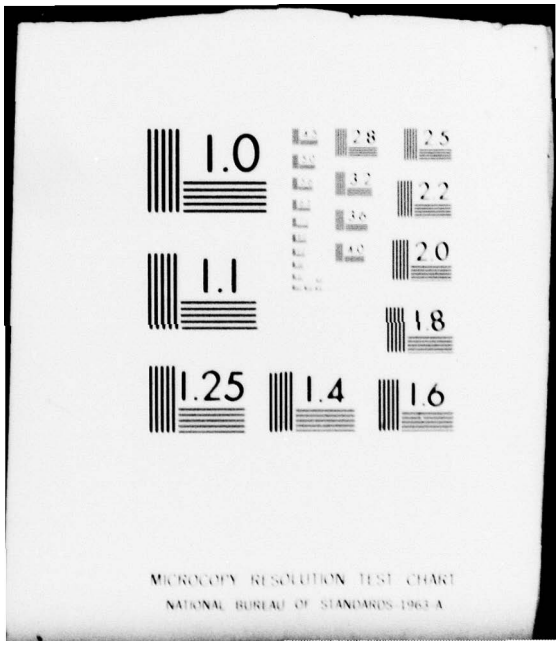
AD-A070 765 DEFENSE INTELLIGENCE AGENCY WASHINGTON DC F/G 20/5
BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS. NUMBER 31. SEPTEMBER--ETC(U)
OCT 78

UNCLASSIFIED DIA-DST-1740Z-005-78 NL

2 OF 2
AD A070765



END
DATE FILMED
8-79
DDC


1.0
1.1
1.25
1.4
1.6
2.8
3.2
3.6
4.0
2.5
2.2
2.0
1.8
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS 1963-A